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OUR DESERT FRIENDS.

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OUR DESERT FRIENDS

STATE OF NEVADA
DEPARTMENT OF EDUCATION
Byron F. Stetler, Superintendentof
Public Instruction
1964

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FOREWORD

This booklet is republished by the State Department of Education because it contains a broad spectrum of knowledge relative to the uses of native plants as food, medicine and clothing by the Indian people.

Nevada's sparse population and its wide areas of open range have made possible the preservation of the many plants known to the old time Indian peoples. This widespread availability of specimens provides an incentive for pupils to explore the realm of the plant world.

Teachers are encouraged to utilize this publication to build an interest in Nevada's plants and an understanding of them and their environment. No attempt is made to develop total efficiency in respect to Nevada plants. The aim to rouse an interest in the mind of the elementary student is of prime importance.

The least this booklet can do is to build an atmosphere of interest, curiosity and understanding of the plant world. Such an accomplishment will make its publication worthwhile.

The State Department of Education expresses appreciation to all persons and organizations who assisted in the preparation of this publication, with special recognition to the committee which did the original research.

Byron F. Stetler

Byron F. Stetler, Superintendent of
Public Instruction

PREFACE

This book was compiled by the Carson Indian Agency through the efforts of Indian Day School personnel, Indian Councils, Stewart Boarding School students and teachers under the guidance of Edith V. A. Murphey and the inspiration of Miss Alida C. Bowler, Superintendent. It was a culmination of a project including Wild Flower and Food Shows held in the various Indian communities where the "Old People" could discuss and remember, then tell Book Committees for recording. It was completed in 1939 for use as a text in the intermediate grades.

Mr. Dale Baldwin, Superintendent, and other Nevada Indian Agency personnel of 1964, believe that the reprinting of this material in Nevada's Centennial year would please those Indian people who had a priceless knowledge to share before they passed on.

Original Committee:

Emmett H. Crotzer, Chairman
Nellie Shaw Harnar
Ruth Asbury Russell
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Line Drawings:

Ella Hanks and other Stewart Indian School Students.

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OUR

DESERT FRIENDS

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Without the help of these people this volume would have been impossible.

***

I

NEW PLAYMATES

Chee-coo-see-gah and Duva-taw-neh live in a little house with their father, mother and older sister. The house is at the foot of some high mountains.

Sawabe lives in a smaller house, near by. Sawabe is the grandfather of the children. They call him E-taw-gah, which means my mother's father. He eats his meals with them.

Chee-coo-see-gah and Duva-taw-neh spend much of their time with Sawabe. He tells them many things. He wants them to know about their people and they like to listen. They know he is wise and knows many things that children should learn.

Chee-coo-see-gah has his hair cut short just like his father's. He wears 'waist' overalls and a wide belt. He has cowboy boots and a cowboy hat.

Duva-taw-neh is older than Chee-coo-see-gah, but they like to be together. They have fun riding their ponies, fishing and playing with the other children of the neighborhood.

Duva-taw-neh has her hair down to her shoulders. Sometimes Miss Day, the school teacher, wants to have Duva-taw-neh's hair cut short like the little white girls have theirs cut. Miss Day thinks it looks neater that way, but Duva-taw-neh says she feels silly, and is afraid the other children will laugh if her hair is up to her ears. They might say that she wants to look like a boy.

She wears dresses that are long enough to cover her knees. They are clean dresses and she helps her mother wash and iron them. In the summer they heat water outside to do the washing.

The children's names are not just names. They mean something.

Duva-taw-neh means pine nut flower. She is happy to have that name as all the little girls like pine nuts better than almost anything else. It is nice to have a name that makes people think of something so good as pine nuts.

Chee-coo-see-gah was given his name because, when he was little he ran so fast that little clouds of dust trailed from every foot print. When people hear his name they know just what kind of a little boy he is.

Sawabe means sagebrush. This is a very good name for a wise man who lives in Nevada.

Sawabe, like all grandfathers, is good to little children and takes care of them when the young men and women are busy.

The children like to be with him. They help him go from place to place. There have been many irrigation ditches and roads built since his eyes were sharp, so they guide him when he wishes to go very far away from home.

In the winter, the family eat and sleep in their little house.

In the summer, the father builds a summer shade for a kitchen. He puts up the poles and the children help him cut boughs to make a roof. The stove and table are then moved out under the shade.

The first day after they move out Chee-coo-see-gah will say, "Feels good out here".

Duva-taw-neh likes it better, too, so before many days she and Chee-coo-see-gah find a place outside to put their beds.

Sagebrush

II

HOW PLANTS GROW

Chee-coo-see-gah and Duva-taw-neh go to school. There are not so very many children in their school, so there are big boys and big girls, small boys and small girls in the same room. They often all work together because there are many things that are too hard for the small children to do.

The school bell rings at nine o'clock, but most of the children reach school long before that. They have time to wash their hands and faces, comb their hair, and brush their teeth before it is time to go inside.

One morning the school bell had rung. The children were going to their seats. Some of them were looking at their hands to be sure they were clean. Others were smoothing their hair. Water was dripping on several little boys' shirt collars. They had been too anxious to have their hair look nice and the comb had left little black rivers all over their heads.

Today there were some empty seats in the back of the room. Miss Day looked at them and a frown came between her eyes. She looked at the children and her eyebrows went up in a question.

The little boys looked at each other and the little girls looked at each other, but no one told her why the seats were empty. Miss Day made a list of the missing students and laid it on her desk. The policeman would come for it, so he could visit the homes to find out if the boys were ill. If they were, the nurse would be a busy lady.

This was an unusual day. The policeman did not come for the list. Every time Miss Day looked out at the empty road, the frown came back.

Those children in school started their work. Chee-coo-see-gah needed help in finding some things he needed. While Miss Day was helping him he thought that he should be kind too. "I know where the boys and the policeman are," he said. "Round-up. The men are branding the new calves and then they can move the cattle to the hills."

"Thank you, I am glad they are not ill," Miss Day said. "It is a busy time for the men because the cattle must be moved. They have been on this winter range a long time. The snow stayed on the hills too late this spring."

The little boys were not thinking of the feed for the cattle, but of the fun they were missing by having to be in school during round-up.

Miss Day knew this, so she thought she would keep them from 'wishing' by telling them a story.

"A long time ago, before there were any farmers and ranchers, all the land in the valleys and on the hills and on the mountains, was a big garden. There were many trees, flowers, grasses, and grains growing here.

"The deer and antelope fed in this garden. They roved from place to place finding plenty to eat. In the winter they lived in the low valleys where there was not much snow. Then when the snow began to melt they moved up to the hills. It was cooler there and the grass tasted fresh and juicy. In the fall they moved down again before the snow came.

"There were no fences to keep them in one place. There were no people to frighten them away from the fields of wild hay. Best of all, there were no men to plow up the meadows.

"Perhaps some of you are wondering how these could all be called gardens, when there were no men to plant things. I will tell you why I think the land was all one big garden.

"Every plant has seeds, although not every plant has pretty flowers. Mother Nature has a way for each plant to scatter its own seeds. The wind, the rain, and the snow help to cover them up until it is time for them to grow.

"Mother Nature has also fixed it so that the horses, cows, cars, and people help plants scatter seeds, too. When you eat an orange and throw the seeds away, you are helping Mother Nature. When you go to the mountains for pine nuts, and then spill some on the way home, you are scattering seeds. You have gathered berries to eat and thrown away those that were too ripe. Your mothers sometimes spill a little of the seed they are cleaning with the winnowing basket. All these things and many more help to scatter the seeds far away from the mother plant.

"Burrs and stickers that get in the animal's fur are really seeds that are sticking there for a ride. They will drop off far away from the place they grew and will start new plants.

"Plants that get very dry in the fall sometimes break off and are blown into the road. Cars catch them and drag them far away, scattering seeds as they go. Tumble weeds do not need a car to move them. They go rolling along like a ball with the wind for a bat.

"Dandelion and milkweed seed is so light that the wind can carry it as easily as it carries dust.

"The seeds that grow in pods get a flying start. The pod gets very dry. Then one day it just pops wide open and maybe even twists as it pops. This is like an explosion to the little seeds inside, so they are thrown all around. Those that land in some little creek are lucky as they get a trip right away.

"Maybe you have guessed, by now, that the most important job a plant has to do is to make seed. Now-a-days, it is up to us to help the plants do this. That is why the men are moving the cattle to a higher pasture. The grass here has been growing and growing, trying to make seed. The cattle kept eating it off, but still it grew. Now there is grass on the mountain for the cattle. While they are up there this summer, the grass here can go to seed and get dry for winter hay."

When she finished the story all the children knew that the big boys were helping with very important work. They were still sorry that they had not been allowed to help, but when Miss Day said she thought it would be fun to draw pictures of the boys working, they were a little happier.

Sand Dock

III

DECORATION DAY

School was out. They had put all the books and school things away for the summer. Chee-coo-see-gah and Duva-taw-neh were finding it a bit strange to have the whole day for themselves. It was not hard to find things to do, as there were so many interesting places to visit, now that they had time enough.

Then one morning Sawabe said, "Duva-taw-neh and Chee-coo-see-gah, do not go away today. We need you. Tomorrow we are starting early for the mountains. We will all go to get flowers for Decoration Day."

Chee-coo-see-gah was sent to get big cans, buckets and a tub. He was told to be sure that there were no holes in them, because they must hold water to keep the flowers fresh.

Duva-taw-neh helped her mother put food in bags. They made a cake and baked bread. People get hungry when they are in the mountains, and mother wanted to have plenty to eat.

By supper time the car was packed with the buckets and food they would need the next day. The water bags had been filled and tied on the side of the car.

The family ate their supper, washed the dishes, and went right to bed. It would seem too short a time before the sun would be up.

Chee-coo-see-gah and Duva-taw-neh were wakened the next morning by their mother. She did not have to tell them to hurry. They were ready for breakfast in a minute.

Before long all were in the car and starting for the mountains. They could see them, in the distance, purple and gold from the light of the sun that was just coming over the hills.

They passed a lake that was blue as the sky and so still that clouds were reflected in it. Mountains, too, were reflected in it upside down. It looked just as if a piece of the sky had fallen down between the hills.

When they had driven a long time they were in a meadow between two high mountains. The car had boiled and boiled while they were coming up the canyon. Father had to put it in low and keep it there for so long that Chee-coo-see-gah had been sure the time would come when he would have to get out and push.

There was a creek coming down from the snow. On either side of the creek there were trees growing. All was green and lovely to see. The grass was longer here than in the valley. The air was cool and smelled good.

The grass grew sooner here, because the higher mountains on either side protected it from the cold spring winds and held the heat of the day until late in the evening.

"Now, children, we will go in different directions," said their father. "Gather the flowers that we need. When you have your hands full, bring them to your mother. She will fix them so they will stay pretty.

"When you find three or four growing together, take only one. Leave the others for seed. You can get more for us from another place. This way we will always have many kinds of flowers growing.

"Be careful not to pull out the roots. Many flowers grow year after year from the same roots. Others grow from the seed that is scattered. But whichever way the plants grow, the roots are important to us for other things besides flowers. They hold the soil on the hill sides and keep it from washing away into little ditches. These little ditches carry the water quickly into the creek before it has had time to soak into the ground for the flowers and grasses to drink. When roots are pulled out it is like tearing out many little water dams."

The children listened while their father talked, and then they started up the hill side, where they could see Indian Paint Brush growing beside the rocks and bushes.

"This is sometimes called lizard torch," said Duva-taw-neh, "because it grows where the lizards make their homes. We will need lots of it. Our people like to have Indian Paint Brush in the cemetery on Decoration Day."

They made many trips up and down the hill, up and down the creek banks, and out into the meadow. Their father and sister made many trips too. By noon most of the containers were full of red, blue, white, pink, and yellow flowers.

Sawabe was helping mother put flowers in water. As he touched one kind after another he said the Indian name and told briefly whether it was medicine or food. Some he laid aside, mentioning that they were to be especially noticed by the children, as they were poisonous to people or cattle. This was interesting to Duva-taw-neh and Chee-coo-see-gah, as the flowers did not look like medicine to them.

While they were eating their lunch, Duva-taw-neh said she was glad she had bread and cheese instead of having to eat the pretty flowers.

"We didn't eat the flowers," said Sawabe. "We used the roots of some plants, the seeds of others, and the leaves and stems of some."

When Chee-coo-see-gah began to ask which roots were good, mother said, "Let us not talk of that now. We came to gather flowers for our people who have gone away. We are gathering them because they are pretty. Fill your eyes and your hearts with their beauty. While you are picking them, thank the One above for them. Sawabe can teach you the uses and the names of the flowers this summer."

In the afternoon after resting a little, they gathered more flowers and started home before the sun went down.

That night the children went to bed early, but they did not forget that they had much to learn from E-taw-gah. They were sure it was going to be fun making friends with the flowers.

Indian Paint Brush or
Lizard torch

IV

A MOUNTAIN TRIP

"I wonder what Chee-coo-see-gah and E-taw-ah are going to bring me from the mountains," said Duva-taw-heh.

"They ought to be coming back by now," said mother.

Duva-taw-neh put her doll basket on her back and walked along the small ridge behind their home. All the time she was looking at the mountain path over which she had seen her brother and E-taw-gah leave the day before yesterday.

At last she saw the riders coming, so she ran to give her mother the news.

"Wait until they get closer, Duva-taw-neh, then you may go to meet them."

When she reached the riders, grandfather put her on his horse while he walked.

"What did you bring? What animals did you see?" she asked excitedly.

"We brought many things---wait and see," said Chee-coo-nee-gah.

When they reached home Chee-coo-see-gah said, "Here is your gift, Duva-taw-neh."

She took the small sugar sack and opened it. "Oh! Some sego lily bulbs (kogi). I am so happy! You remember that I usually dig for them first when I go. They are always sweet." She offered mother, grandfather and Chee-coo-see-gah some.

E-taw-gah gave mother two full flour sacks. She opened one, and her face beamed with delight. "The spring rains did help the Wild Sweet Potatoes (yapa). Um-mm, they are large and juicy!"

Duva-taw-neh sat down and started to peel a potato from the sack.

Mother took another bite, and said, "Pewhal," which is a word used in giving thanks. Then mother untied the knot on the other bag. She took out a handful of Wild Onions (pah-duze).

Duva-taw-neh said, "Here are some of the blossoms," as she began to pick them out, "They are pretty. Some are pink and some are lavender. There are many small blossoms all at the top so it looks like there is only one flower to an onion plant. The leaves are the most important food, aren't they, mother? Does anyone cook with pah-duze?"

"Yes, I have used it in cooking, but I think it is better when it is not cooked."

"I like the little onions (udz) that grow on the desert, and I even like to eat the strong Indian Garlic with beans," said Duva-taw-neh.

E-taw-gah showed mother a sample of Wild Sweet Potato. The stem had grown about sixteen inches above the ground. The blossom was a cluster of small white flowers The leaves were narrow and about two inches long. They grew far apart on the stem.

Chee-coo-see-gah went to feed and water the horses at the river.

E-taw-gah, busy with two large sacks, was saying, "This was a good growing season. Look at these Indian Balsam roots."

Then he took from another sack two roasted ground hogs. Mother came over to the sacks to see the contents, then she started a fire in order to prepare a meal for the travelers.

Duva-taw-neh helped to set the dishes on the cloth, then she asked Chee-coo-gah, who was just coming in from tending the horses, "What did you do when you first got to the spring?"

"We unpacked the horses, then we hobbled them. We gathered wood and made our camp ready for the night, then, after I had filled my water bottle with fresh water, we walked on up the canyon. We did not go far when we knew we had found all the Wild Onions we would be able to take home. The onions were growing very thick under the Wild Rose bushes. The cattle had not gotten at the onions under the thick sticky bushes."

"Do cattle eat Wild Onions?"

"Oh, yes, Wild Onions are valuable forage except for dairy cows whose milk will taste like the oil. Horses do not often feed on Wild Onions," said mother.

Chee-coo-see-gah continued, "Then farther on in the rocky soil we could see the white blossoms of the Wild Sweet Potato (yapah) beckoning to us. E-taw-gah and I used our Greasewood sticks to dig for the potatoes. We dug for your kogi whenever we came to one among the Wild Sweet Potato plants. We had many potatoes when we started to make traps at the homes of the ground hogs. Grandfather had me help him make the traps. We took our we-ha strings and I made one whole trap by myself. We returned to camp and went to bed early. E-taw-gah sang songs. I listened but I went to sleep soon after going to bed."

E-taw-gah went on with the story, "The next morning Chee-coo-see-gah and I went to see if there were any animals in our traps. We found two ground hogs. While I cleaned and roasted them,Chee-coo-see-gah gathered some Wild Onions."

As E-taw-gah talked, mother was placing the food on the cloth spread for lunch. Duva-taw-neh moved to one side, for at meals one eats quietly, and does not do too much talking.

After lunch E-taw-gah gave mother some toza (Indian Balsam) to take to the new neighbor whose baby needed medicine. Since Duva-taw-neh had helped to clean the lunch dishes, mother said she might go with her.

Mother said to the new neighbor, "You must break and cut some roots into small pieces and boil them, then give the baby some of the brew. If your husband wishes he may smoke some toza in the room."

"How would he do that?" asked the young mother.

"He should scrape bits off the root, and smoke them, either in a paper or a pipe. If it is too strong, he can mix it with Indian Tobacco. That would help to clear the child's nose of that cold. We hope the baby will be well soon. Now we must go and help grandfather put things away."

"I was wondering if you would be so kind as to describe this toza plant. I would like to go to the mountains to gather some so that we can repay you," said the young mother.

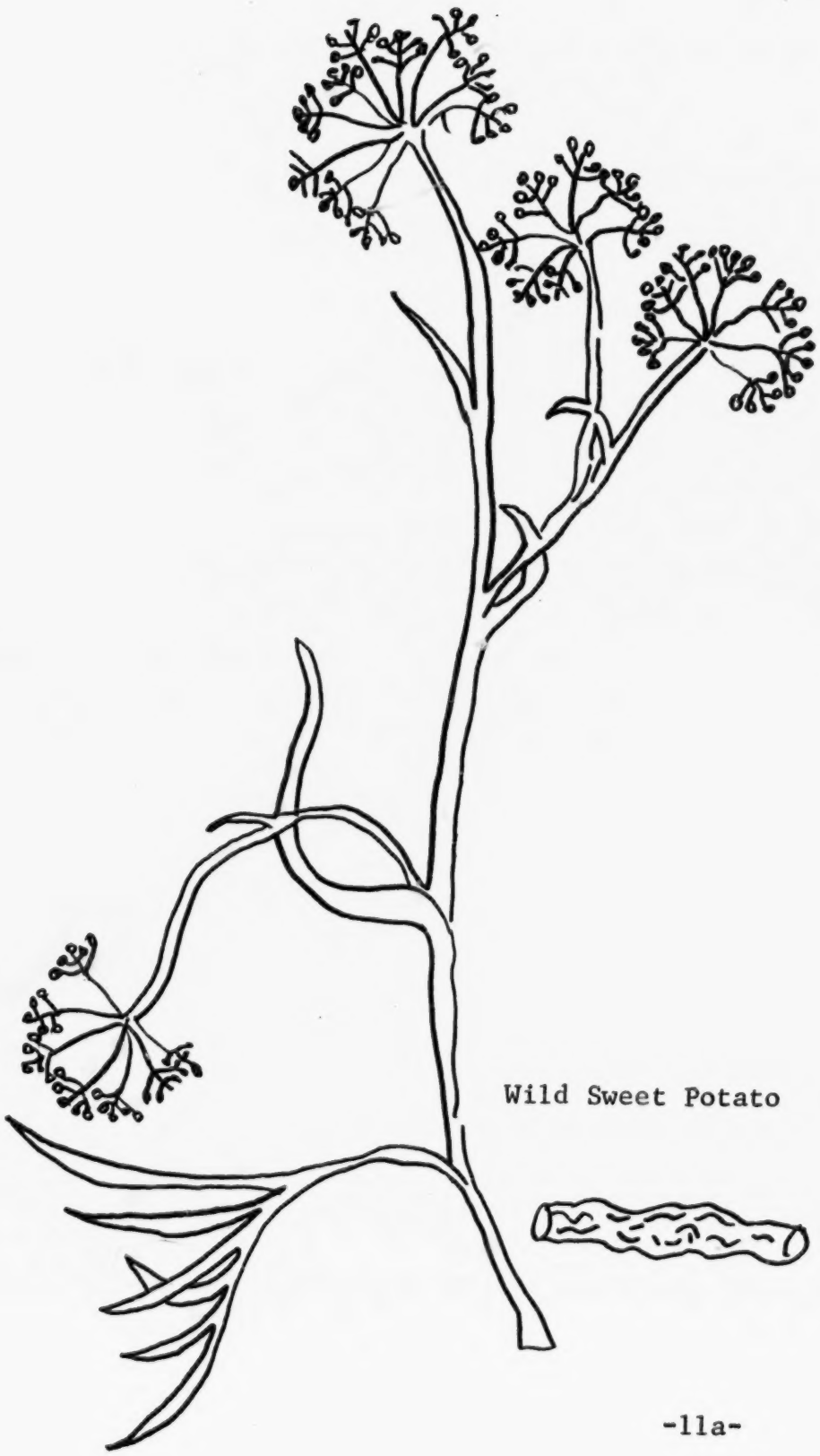
"You do not need to repay the toza, but I will tell you how you may recognize the plant. The stalks are from one to three feet tall, and sometimes half an inch in diameter. The leaves are much divided, and look like our garden carrot leaves. The flowers are yellowish-green and grow in flat topped clusters, two or three inches across. There are about eighteen smaller clusters. The flower stalks are tall and stout. The roots are long and slender with old stems remaining like fibers. The root chips are gathered and burned for asthma. If you should find new shoots, you may eat them as greens, that is, if the cattle have not eaten them. The Indian Balsam is a valuable forage in the spring and early summer."

"Thank you, I believe I could find the plant. I would recognize it by smelling of its root, too," said the neighbor.

"Yes, that is an important way to recognize the plant. You may break any part of the plant and will get that toza smell," said mother.

Mother noticed that the baby's eyes were sore so she told its mother, "If you would cut the toza plant and catch the drops of oil, then put that oil in the baby's eyes, that would help them."

Sego Lily



Wild Sweet Potato

Big Sagebrush
Artemisia Tridentata

"Thank you, I shall use the toza in all the ways you told me."

Just as mother was ready to leave she remembered to say, "It is fine to give thanks for the plant which is to be taken for medicine. Our people leave small gifts at the diggings."

"I think that is a nice custom. Just what would be a good gift to leave for Indian Balsam?"

"It does not make any difference. Give whatever you have. It is the thanksgiving that counts. I usually take a piece of cloth and tear part of it off, then I put it in the hole where I have taken the toza root," said mother.

E-taw-gah and Chee-coo-see-gah were getting ready to leave when mother and Duva-taw-neh returned.

"Come with us," called Chee-coo-see-gah. "We are going to gather fresh sagebrush in which to wrap the roasted ground hogs."

Duva-taw-neh ran to catch up with them while mother went into the house. Grandfather liked the taste of the ground hog after it had been wrapped in the sage brush. Grandfather let the children gather enough sagebrush branches for the wrappings. He came upon a large sagebrush and said, "This one would have been a prize for its root in the old days."

"What was done with the root beside being used for fire?" Duva-taw-neh asked.

"The bark was used to start fires," Chee-coo-see-gah said.

"How?"

"First they held a piece of wood with a small hole bored in it, over a bunch of dry sage bark, then there was another small twig that fitted into the hole. The small twig was twirled against the other until sparks flew and caught on the sagebrush bark." Chee-coo-see-gah was eager to give this bit of information that he had recently learned.

After thinking a long time E-taw-gah continued, "The sagebrush was one of the Paiute's best friends in the old days."

"We still use the leaves for medicine," spoke Duva-taw-neh. Mother boils the leaves so we can have medicine for our colds. I have also had my hair washed in sagebrush water. Then mother put some on my head when I had a headache."

"Remember how we used to make gum from the sagebrush?" Chee-coo-see-gah asked. "The sagebrush gum does not take as long to make as the segoop gum."

"Sawabe is grandfather's name too. He is so good and helpful that I know he was named just right," said Duva-taw-neh.

E-taw-gah continued, "We made our shoes or sandals from it, too. Many people made their shoes and breech cloths with care, but the lazy ones were careless of how their clothes were made. The people carried the leaves as a charm. Even the seeds were used for food. They were gathered and cooked as other seeds."

"I wonder if the white people know what a useful plant sagebrush was to the Indians in the long ago," said Duva-taw-neh.

"I do not know about that, but I know father went to a stock meeting where the talks were about the good and bad of certain plants on the range. Let us ask him if there was talk about the sagebrush," said Chee-coo-see-gah.

Grandfather said he thought that was a very good idea, so they all started for home.

That evening when father came in from the range, Chee-coo-see-gah took the horse from him, unsaddled it, and took it to feed and water. Duva-taw-neh told father what her brother and grandfather had brought from their mountain trip. He was pleased to know that they had had a successful trip. She showed him first the roasted ground hogs she had helped to wrap in sagebrush branches.

After supper father began by asking grandfather to tell of what use the sagebrush was in the old days. He did this because it was polite to ask the older people to give their views first. Grandfather thought a while and, because he knew grazing was to be the topic for the evening, he told them that long ago they did not have to worry about grazing because they had so much land.

Father began, "The big sagebrush or blue sage is the most abundant shrub in the west."

"Nevada has the sagebrush for its state flower," said Chee-coo-see-gah.

Father continued, "Sheep and goats will eat a considerable amount of sagebrush leaves in winter. Cattle eat a little, while the horses nibble just a few flower heads."

"Is it because of its taste that the horses and cattle do not eat more?" asked Chee-coo-see-gah.

"Yes, our farm agent said white men have studied the plant and found the sagebrush leaves are the same as alfalfa in protein. Duva-taw-neh should know about that because she has been to school several years," said father.

"Yes, I know some foods contain more protein, and others have more carbohydrates or fats," said Duva-taw-neh.

Father went on, "The sagebrush leaves have more carbohydrate food value than alfalfa and will also make twelve times as much fat. This fat makes it a good winter food, but the animals would rather eat the grass that grows around the sagebrush because they do not like the taste of the oil that is so bitter, although cattle do get sage hungry and go on the range to eat sagebrush until they have had enough."

"It is because the animals do not like the taste of sagebrush that some people burn it from the range?" asked Chee-coo-see-gah.

"That is one reason. Some people think that if the sagebrush is burned that will give more room for grasses to grow. But our agent said that most of the time the best grasses are also killed in the fire, and only small grasses grow."

"Then burning the sagebrush is really not good," said grandfather.

"No," Father shook his head.

"I am glad they have found that out so they will not be burning more," said Duva-taw-neh.

"One other reason I do not believe they will burn much more sagebrush is because the roots grow deep in the soil and these hold the soil in place. That is the reason we do not have dust storms in Nevada like we read of in the middle western states."

Grandfather, pleased with what father had told of the white man's finding about his namesake, started to go to bed. His action was a sign for Chee-coo-see-gah and Duva-taw-neh to retire, too.

The children said they had learned a lot that day, and were happy.

Everyone was happy and all said, "Good night."

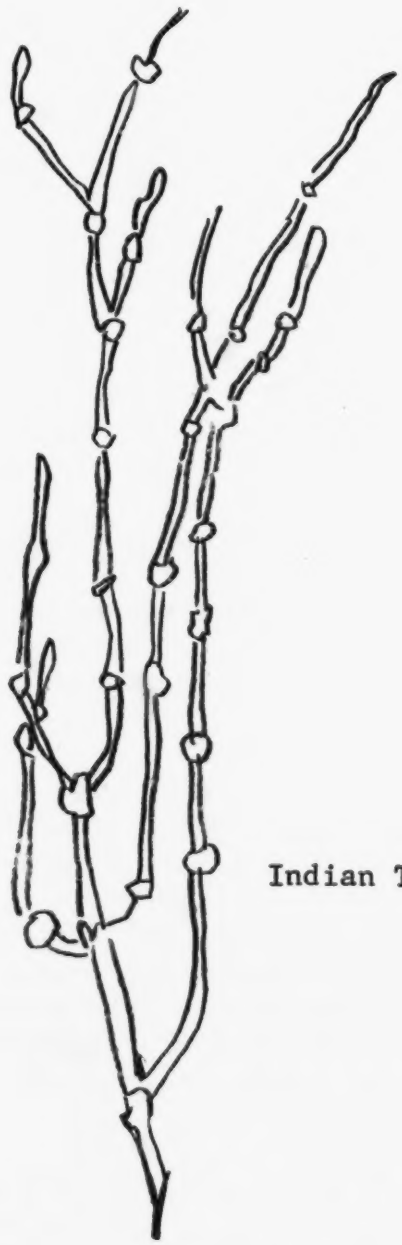
The next year Duva-taw-neh was more eager to learn about plants. She learned that sagebrush grew in different kinds of soils as rocky, lava, or limestone; that wherever it grew, the soil was rich and fertile, so that small grains and irrigated

plants would grow well there. She learned that the sheep preferred the taste of grass and ate it until it was gone, then they learned to like the sagebrush taste. The sagebrush diet really kept them during the cold winter.

Some people have scraped the sagebrush instead of burning it, and have found the grasses grow taller but it left the land bare and caused dust storms.

The sagebrush's yellow pollen is scattered by the wind. The flowers are small yellow ones that grow in small clusters along sprays toward the end of the branches.

The white people use the sagebrush for medicine in curing colds and diarrhea, for hair and eye wash, and for antiseptic.



Indian Tea

V

A DESERT TRIP

"Let me drive a while, Duva-taw-neh," begged Chee-coo-see-gah. He could not just ride along. He wanted to share in everything.

Duva-taw-neh gave him the lines and smiled. She knew he would soon give them back again.

Today, Chee-coo-see-gah and Duva-taw-neh were going in the wagon with E-taw-gah out into the wide flat stretch of desert. He had said, "I should go out and gather some Ma-goo-ta-hoo--Desert Beauty your teacher calls it. It is one of the good medicines for colds and I have used all I had."

After some talk it was decided that Duva-taw-neh could drive the team for her grandfather, and Chee-coo-see-gah could go along to help.

It was good to come out here, away from everything and everybody. The sun was shining brightly but a brisk breeze would keep it from being too hot. It did not matter, though, for E-taw-gah and the children did not mind the heat. They knew the sun was good for them.

The bright red flowers of the desert mallow attracted the children. "We must get some to take home to mother. They are such a pretty color," said Duva-taw-neh.

"Do you not think you had better gather them when we come back on our way home? Then they will not have to wait so long for a good drink of water," said her grandfather.

"Yes, E-taw-gah," she answered.

He continued, "The old folks used to say those flowers would make you have a nose bleed. They are so covered with a downy fuzz. It may be better for you not to handle them and then put your hands to your nose.

"But our farmer says the cattle will eat this plant when it is young and tender in the spring. Now that we have so many cattle we are glad to see it growing on our range to help feed them.

"Now, children, we will soon be coming to where we will see Ma-goo-ta-hoo bushes. Watch for a gray-like bush that is bare of leaves and flowers and has so many short, branching stems going in all directions that it looks as if it were a bush bearing many thorns. The little leaves are slow to come on the stems.

"There is a very, very small, purple blossom that comes [illegible]ound clusters later. Each tiny blossom looks like a little loco [illegible]er. When you see some of these bushes we will stop and gather what I need to take home. You will find the stems do not break easily and that they are not smooth. They are covered all over with little, raised specks that are rather yellow-green. If you smell of the stems you will find they have a good medicine smell.

"I will save these branches. When anyone has a cold they can cure it by drinking a tea made from the dried twigs of Ma-goo-ta-hoo. Long ago we used to burn the twigs in our houses as a disinfectant when we heard smallpox was coming. Now we do not have smallpox because the white doctors have vaccinated all the children. But long ago smallpox was a terrible disease among our people and Ma-goo-ta-hoo was always to be found to use as a medicine."

"E-taw-gah, there are many bunches of grass standing all about among the flowers and the little, leafy bushes along our way. That is why this is a good range for our cattle, is it not?" questioned Chee-coo-see-gah.

"Yes, child, that is the sand grass you hear people talk about. It has always grown out here on this bright sand flat. But some years ago we had too many cattle feeding here and it nearly disappeared from this range. About five years ago the government had sand grass seed sown out here, and now it is coming back nicely. They have learned not to let the cattle stay here too long. The cattle must not be allowed to graze the Sand Grass while it is making seed and re-seeding the range, as it does naturally.

"Sand Grass is brave; frost, snow, or sun cannot beat it down. It holds its head high to the hungry cattle in stormy weather. It says, 'Here I am. Come sit at my table.' The cattle like the big bunches of grass, either dry or green. It bears much seed which cattle and horses eat."

"But, E-taw-gah, do we not eat Sand Grass seed wye?"

"Yes, we do, Duva-taw-neh. You know how some of our women go out in June to gather the seed. Long ago, all our people went out gathering wye. They tapped the seed from the grass with a willow beater, and caught it in the pointed, close-woven baskets. They piled the gathered seed on hard, smooth ground and set fire to the light straw, stirring the pile with sticks. The seeds did not burn, but were cleaned with winnowing baskets. Later, when they were sure the seeds were completely dried, they stored them in a bark lined pit in the ground, to save them for winter."

Here Duva-taw-neh interrupted her grandfather to tell him that she was sure she had seen ma-goo-ta-hoo. The slow-moving team was brought to a stand still and they all got out.

Duva-tah-neh had been right, here and there they found a number of ma-goo-ta-hoo bushes. After working busily, gathering a little from each bush, they presently had a nice supply gathered into a flour sack to take home.

Returning to the wagon, Chee-coo-see-gah stopped his grandfather to ask, "What are these bunches of dry, short stems on this Sand Grass?"

"Do the roots seem to be dead? Do they break easily?" asked E-taw-gah.

"No, they seem to have life in them. They are hard to break, but these stems have no seed stalks. They are just clinging together. Why is that?"

"My child, these short bunches are the stems which bore seed last year or the year before that. They are the old people of the sand grass tribe. They have produced their crop, and are standing by. They cannot do much now, but like us, they like to be close to their young people. And through their roots, which still live, they can give. Like Indians, they love to give. Sand Grass lives on year after year; asking little, giving much."

"When I am a man I will help take care of the cattle out there. I will see that the Sand Grass gets a chance to make seed. Then our range will be thick with Sand Grass," said Chee-coo-see-gah.

"Here is a pretty plant that is different, E-taw-gah. It looks so white, growing out here with so many green plants around. I wonder what it is." Duva-taw-neh picked a couple of slender stems and handed them to her grandfather to examine.

Many slender, white stems seemed to be growing up from the base of this plant. Though faintly green, the tiny narrow leaves that grew along each stem were white looking, too.

"This is another good range friend. In late summer you will find it looking whiter than ever. That is why lots of people call it White Sage. It is a good desert plant. It goes without water for a long time. Indians long ago liked this plant because when the deer came down to the valleys they fed freely on it. Our farmer calls it Winter Fat. He says that it is a very good winter range plant and fattens our cattle."

They went back to the wagon and turned the waiting horses toward home.

"Is it not funny how much faster our horses are going now," Chee-coo-see-gah commented. "I guess they are glad we are going home. I am glad I do not have to walk all the way home from here. It is much nicer to ride."

"When I was a boy, Chee-coo-see-gah, I would have been ashamed to have said anything like that. Little boys then tried hard to grow very strong. They would try to see just how far they could walk before giving up. If it were not so warm now I would like to see you try."

Duva-taw-neh insisted on stopping to gather some Desert Mallow when at last they came within sight of the trees near their home.

"I will walk on towards home," said Chee-coo-see-gah who had been thinking about what his grandfather had told him. He intended to hurry ahead of the team to get as near home as he could before he would be overtaken.

Duva-taw-neh gathered only the brightest and largest Desert Mallow for her bouquet. The clear, scarlet blossoms with their golden centers and gray-green foliage made a very pleasing picture. She was quite delighted with the gift she would have for mother.

Chee-coo-see-gah had wasted no time looking back. When finally he heard the sounds of the approaching horses, he was quite proud of how far he had walked.

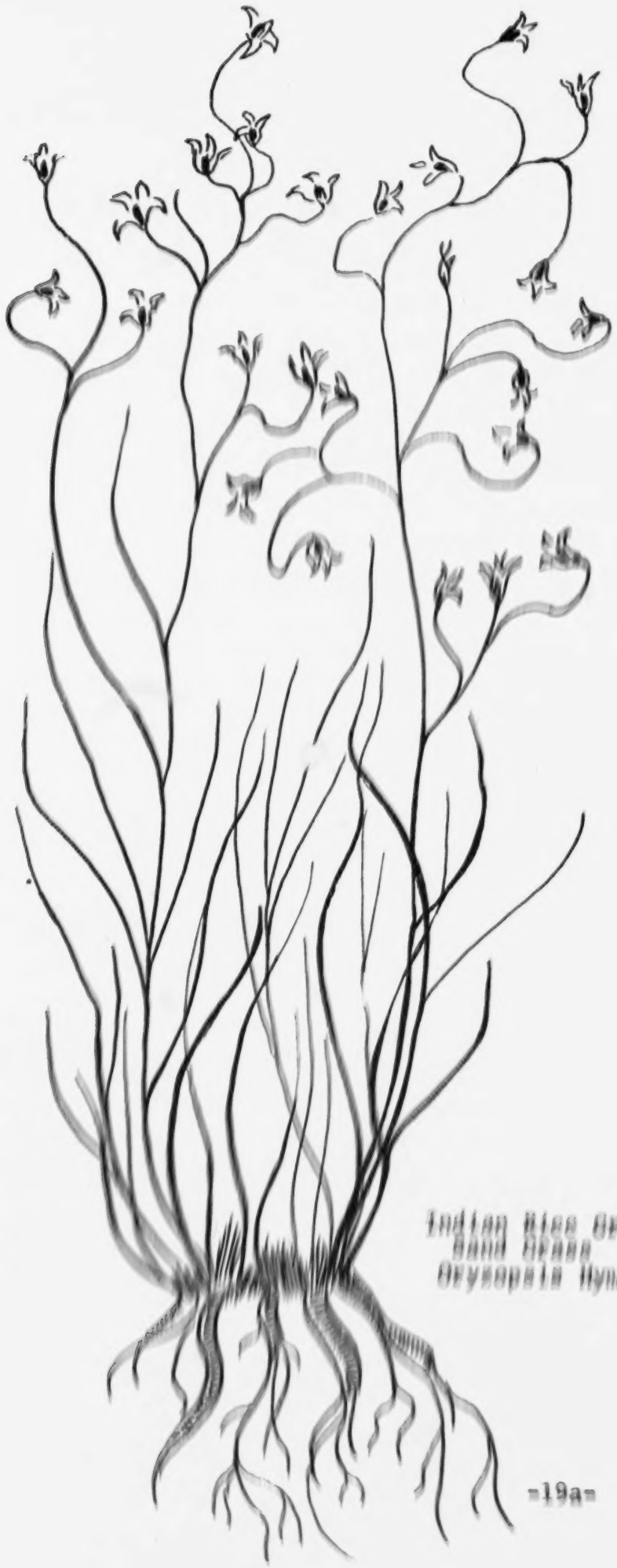
"Better come ride again. It is hot," grandfather hailed him as they drew up beside the sturdy little fellow.

Pleased to be asked to ride, Chee-coo-see-gah reached down to a plump little green shrub growing near by and broke off a little branch, that he might have something to show his grandfather when he got back into the wagon.

"Do you know anything about this plant, E-taw-gah? There seems to be a lot of these little bushes growing all around out here."

E-taw-gah looked at it closely and smelled of it. "This must be Ku-ha or Bud Sage. It is a little plant and it is a good friend of the Indian. See these soft green leaves and fat round flower buds. Squirrels like them as food. And the squirrels taste best when they have had plenty of Ku-ha to eat. The Indians liked to eat squirrels. That is why we call ku-ha our friend.

"The farmer tells us that the cattle like ku-ha, too. It has green foliage early in the spring before many other things get green. If you had tried to get this plant, roots and all, you would have had to work much harder than you think. It has lots of roots that go deep and spread out, too. That is why it lives on, even though we have little rain and the cattle eat it close."



Indian Rice Grass
Sand Grass
Oryzopsis Hymenoides

Desert Mallow
Sphaeralcea Ambigua

Duva-taw-neh said, "Our people have many plant friends everywhere, have they not, E-taw-gah? I am so glad you know all about them and can tell us so that we may know, too. Everywhere we go now we see plants we know about. It is much more fun than seeing ones you do not know. The next time we go out on the desert range we will know so much more about what grows there and will enjoy it more."

Chee-coo-see-gah added, "I want to know all about what is good for the cattle to eat. I will try to remember all you have told me."

Grandfather smiled. These children were such apt students and would enjoy their place in the world in years to come. He must take them with him often when he went out to gather medicine.

Tall Larkspur

VI

GOOD MEDICINE

"Duva-taw-neh! It is time to wake up! The sun is looking over the mountain. E-taw-gah will be ready to go before we are."

"Oh! Chee-coo-see-gah, why should we get up so early?"

"Do you not remember? This is the morning E-tah-gah Sawabe is going to take us to look for Hewovey. We must hurry so we can get started before it is too hot."

"That is right. I do not see how I could forget when he is doing it for me. I would get up early every morning if I could get rid of this ugly impetigo sore on my chin. I will hurry and fix us some ah-guh (Sunflower seed mush) and fish. You go and see if E-taw-gah is ready and bring him back to breakfast before we start."

Before Chee-coo-see-gah had gone far, he met E-taw-gah coming down the path. He was walking slowly, feeling the smooth path with his feet in their soft moccasins, and using his cane very little.

"E-taw-gah, you did not forget what we are to do this morning, did you?"

"Is that you, Chee-coo-see-gah? No, I did not forget that Duva-taw-neh wants some medicine for her chin. I thought I was going to have to come and wake you up."

"Duva-taw-neh is making some ah-guh for us to eat before we start," said Chee-coo-see-gah.

By the time they got to the house Duva-taw-neh had breakfast ready. They all ate plenty of ah-guh and fish, then Chee-coo-see-gah helped Duva-taw-neh put the rest away before they started.

E-taw-gah said, "Chee-coo-see-gah and Duva-taw-neh, you must be my eyes today. We are going to look for hewovey. It usually grows in sandy places in the sunshine. It grows about as high as three hands and is the same gray-green color as sagebrush. The stems grow in bunches but they do not stand up straight. The leaves grow in pairs along the stem. At the same place on the stem where the leaves come out is a cluster that looks like a flower. The clusters may be any color, from a dusty pink to a pale green. These clusters are where the flowers have been and where you will find the seed. Sometimes you will see part of the flower still there, but usually the flower is more toward the end of the stems. The flower looks like a tiny morning glory and is the same color as the clusters. The leaves are nearly round, with a small point at the tip. The leaves and stems are not soft like green grass but will break easily if you bend them. They are thicker than most grass and have a queer feeling like they are cool, no matter how hot the day. Now let us start out toward the mountain."

Wild Onion
Allium Cernuum

Indian Balsam
Leptotaenia Multifida

As they started, Duva-taw-neh led E-taw-gah by holding the end of his cane. Sometimes she walked close in front of him so that he could follow her. He was not entirely blind and could go along very well but sometimes he did not see rocks, sticks, holes, or ditches and would stumble if someone were not picking out a good path for him. Duva-taw-neh loved her grandfather, and so she was careful to pick out smooth places for him to walk. She kept looking at all the plants they passed.

Suddenly Duva-taw-neh said, "Oh, wait! E-taw-gah, I see some hewovey."

She ran and broke off a stem, then came running back with it to show to him. Chee-coo-see-gah came back to see, too.

Duva-taw-neh gave the plant to E-taw-gah and he felt of it, smelled of it, and held it close and looked at it before he said anything. Then he said, "Chee-coo-see-gah, do you think this is hewovey?"

Chee-coo-see-gah looked carefully at the plant and then he felt the leaves.

"The leaves are gray-green and the flower is pink, but the flowers are in a big bunch at the top. They do not look like tiny morning glories; they look like little butterflies with three wings," said Chee-coo-see-gah.

"You are right, Chee-coo-see-gah. This is not hewovey. This is Wainatsu. The three winged butterflies are not flowers, though. They are the same kind of clusters that you will find down farther on the stem on hewovey. On wainatsu, the clusters are larger and are at the end of the stem.

"Duva-taw-neh, you do not need to be ashamed because you made a mistake. There are many grown-ups that do not know which is wainatsu and which is hewovey. Wainatsu is what your teacher will call Sand Dock. Hewovey is called Wild Four O'Clock by the white man because the flower stays closed up tight until toward evening when the sun is getting ready to go down, then it opens. Maybe it was four o'clock when the white man first saw a hewovey open. That is why it is called Four O'Clock."

Duva-taw-neh looked at the Sand Dock for a long time but she was not thinking of the plant. Finally she said, "E-taw-gah, some white people must have pretty good sense.

E-taw-gah laughed, then the laugh changed to a faint smile and he said, "Duva-taw-neh, all races are smart. Every race must learn to use what it finds around it. We know many things that the white man does not know but maybe it is not because we are smarter. Maybe

it is because we needed something and had to make it ourselves. We had to make it out of things we could find close to where we lived. The white man knows many things that we do not know. I expect the people that live on the other side of the Big Water to the west know many things that neither we nor the white man know."

Duva-taw-neh and Chee-coo-see-gah did not run back to look for hewovey but walked thoughtfully on toward the mountain.

"There it is!" they both said at the same time.

In a sandy place, where there were no other plants for several feet, was a gray-green plant. There were about ten stems leaning on the ground in different directions, as if they were resting in the bright sunshine. The leaves grew in pairs on the stem. There were pink clusters on some of the stems where the leaves grew. There were some tightly closed flowers at the ends of some of the stems.

Chee-coo-see-gah and Duva-taw-neh each broke off a stem and ran back to show it to E-taw-gah. He took the plant in his hands to examine it.

Then he said, "Yes, that is hewovey. Now, what we want is the root that will go down deep in the ground. You must dig down about as deep as half way to your elbow on all sides of the plant but be careful to leave enough of the root so that it will grow again."

Chee-coo-see-gah took a stick and started to dig. Duva-taw-neh took E-taw-gah over to a big rock so that he could sit down and then she came back to help dig.

Soon they had dug nearly a foot deep. "E-taw-gah, this root seems to get bigger as it goes down. Shall we keep on digging?" asked Duva-taw-neh.

"No, Duva-taw-neh. Break it off when you get a good, big piece. It is easier to find more than it is to dig such deep holes. They should be easy to find now that you know what you are looking for. I will sit here and hold the roots that you and Chee-coo-see-gah bring to me."

They both ran to find more hewovey. They would call to each other every time they found one and race to see who could gather the most. Soon grandfather said, "I think this is enough. We have more than Duva-taw-neh will need but we will keep what we have left because hewovey root is good to make other things than medicine for sores. If you want to cure a headache you must take the whole plant and boil it to make tea. You drink some of the tea, then you wash your hair with some and put what is left on your head. The roots also make a nice yellow dye."

"What do I do for the sore on my chin, E-taw-gah?" asked Duva-taw-neh.

"You will have to dry the root so that you can pound it up into a powder, then dust the powder on the sore.

But, E-taw-gah, I want to make my sore well now."

E-taw-gah said, "Perhaps your aunt will have some roots that are already dry that you can trade for."

"Oh, I hope so!" said Duva-taw-neh.

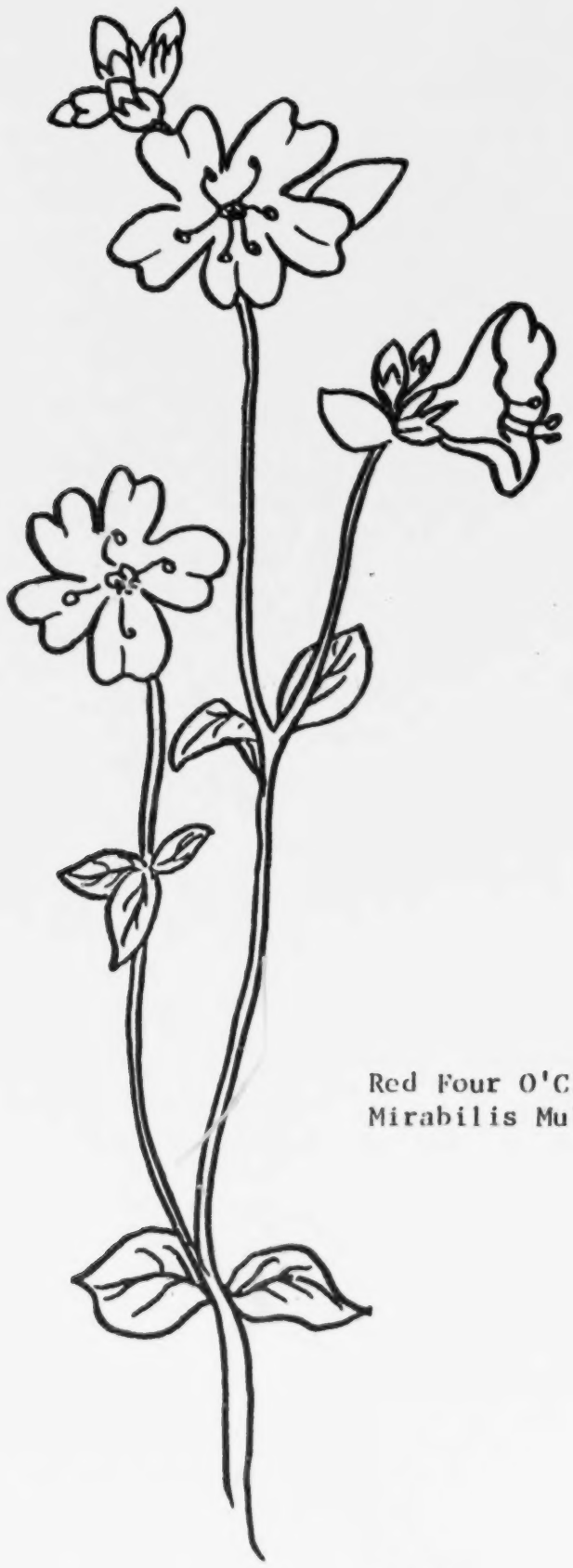
E-taw-gah continued, "After you have the root pounded to a powder you must wash the sore (impetigo) very clean with soap and water, then sprinkle hewovey powder on it. You must do this several times until the sore goes away."

By this time they were at the place where Duva-taw-neh had found the wainatsu (Sand Dock).

"E-taw-gah, I can see lots of difference between wainatsu and hewovey now," said Duva-taw-neh, breaking off a piece of sand dock.

"Yes, they are quite different when you see both of them together. Wainatsu is good for nearly the same things as hewovey, though. If we had not found any hewovey we could have used pounded wainatsu root on your sore. Wainatsu is better for burns and cuts that have become infected. It also makes a pretty orange dye."

When they got home, Duva-taw-neh took some of the hewovey roots to her aunt's house. Sure enough, she had some dried roots that she had gathered the year before just when the seeds were ready to fall. She was glad to trade with Duva-taw-neh. Her aunt helped her pound the root and showed her how to dust the powder on to the sore. In a few days the impetigo sores were all well.



Red Four O'Clock
Mirabilis Multiflora

Mormon Tea
Ephedra Nevadensis

VII

GATHERING SUN FLOWERS

The next morning after they had come back from gathering hewovey, Duva-taw-neh was helping her mother get breakfast.

"Mother, is this all the ah-kuh (sunflower) we have?"

"Yes, Duva-taw-neh," she answered.

"Will you let Chee-coo-see-gah and me go and gather some this morning? We saw lots of them back toward the mountain yesterday. It is not very far. You could see us from here if you look from the porch."

Mother smiled. "I think that would be very nice. I will let you take two of the small burden baskets. If you find enough young, tender leaves you may bring them home and we will cook some nice greens that E-taw-gah likes so much. You will have to look carefully in the middle of the clumps of leaves because it is too late in the year for many tender leaves still to be growing. If you find enough I will cook them and you may take him a present for helping you get your medicine yesterday."

"Oh, that is nice, mother. Should I bring him some of the roots, too? I think he uses them for medicine?"

Mother said, "I am sure he would be pleased. He makes a tea from the root that he drinks for a tonic. He says it makes a good poultice, too. When you dig, start a few inches away from the plant and dig under the root."

Duva-taw-neh ran to the porch and called, "Chee-coo-see-gah, hurry and wash for breakfast. Mother is going to let us gather some ah-kuh this morning."

As soon as breakfast was over, Chee-coo-see-gah said, "I will carry .he digging stick if you will carry the two burden baskets, Duva-taw-neh."

"She answered, "I will carry them up there if you carry a full one back and still keep the digging stick."

"That is all right," he said as they started.

They could see a large patch of yellow sunflowers up on the sunny hillside, so it did not take them long to get there.

Chee-coo-see-gah dug up three big roots and put them in his basket. "I think these three roots will be enough because we must save room for lots of seeds."

Duva-taw-neh said, "Let us put both of the baskets here by this big sagebrush. We can fill your open weave basket with tender leaves as we find them, then we will have my closely woven basket for the seeds."

"All right," he said, putting his basket down next to hers.

They gathered many sunflower heads, but did not find many tender leaves.

Chee-coo-see-gah said, "Look at this big sunflower. I am going to see how far down the root goes."

He dug and dug.

Finally he said, "Duva-taw-neh, come help me. I cannot get to the end of this big root."

They both dug until they were down as far as they could reach.

"This goes too far," said Chee-coo-see-gah, "Let us see if we can pull it up."

They both took hold and pulled as hard as they could.

SNAP!

The root broke off and they both fell backward on the ground.

They lay on the ground and laughed. Then they got up and looked at the big sunflower they had pulled up.

Chee-coo-see-gah said, "Let us take this to E-taw-gah and have him tell us about it."

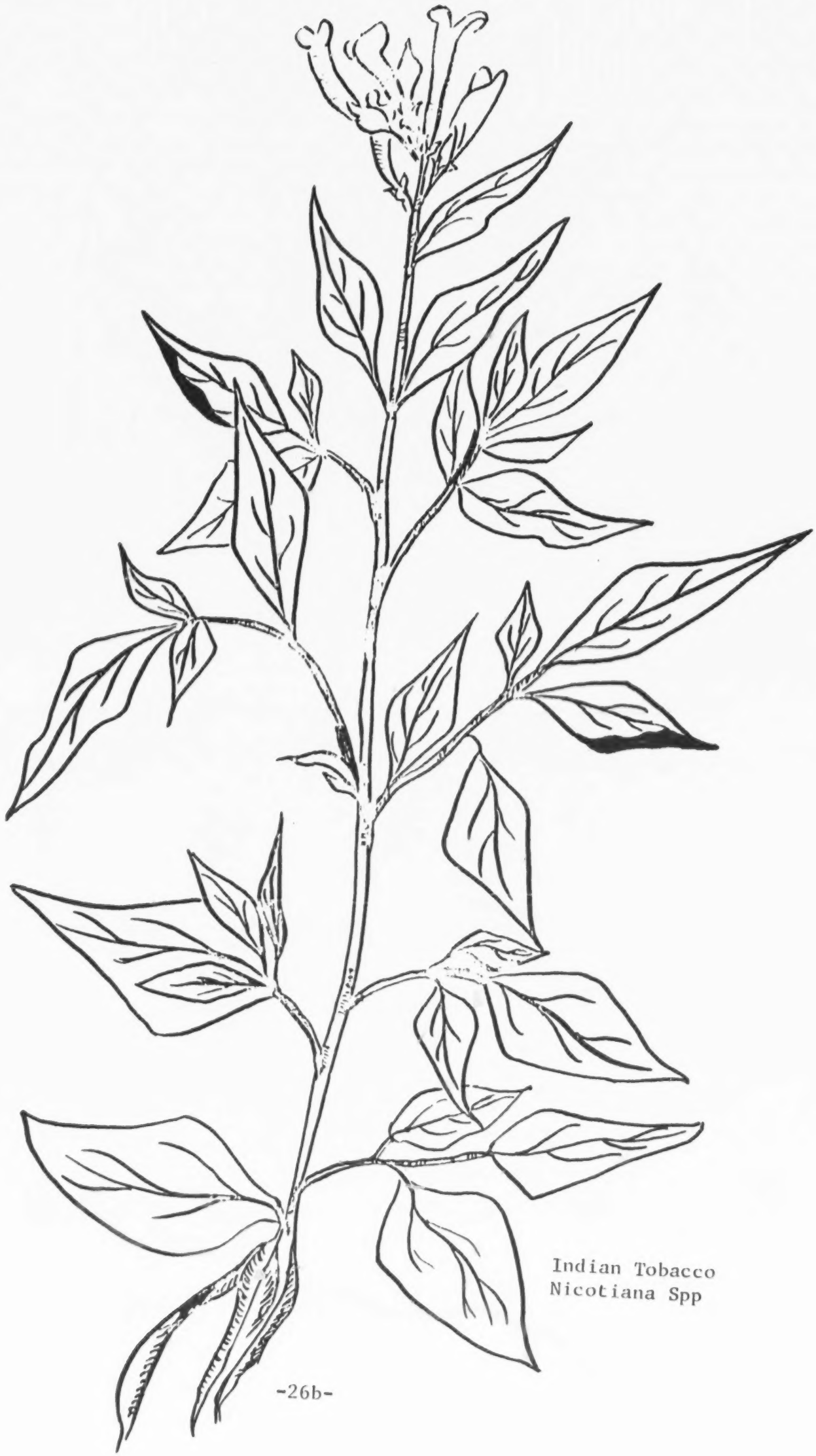
They finished filling her basket with seeds in just a little while, but by the time they had enough tender leaves the sun was up over their heads, so they knew it was time to go home to dinner. The baskets were light so they did not have to stop to rest.

As soon as they had finished dinner, they took their sunflower plant over to E-taw-gah's house. He was sitting on the porch mending his moccasins.

They sat down and watched him for a while until he said, "What do you have there, Chee-coo-see-gah?"

"It is ah-kuh," he answered. "Will you tell us about it, E-taw-gah?"

Sunflower



Indian Tobacco
Nicotiana Spp

Grandfather took the plant in his hands and said, "See how big the root is. That makes the plant strong so that it will come back every year from the same root. If you look here at the top of the root you can see some old shoots from past years. The farm agent told us the white name for ah-kuh was Arrow Leaf Balsam Root. Look at the big arrow-shaped leaf and smell the root and you will know why they named it that. He told us it was good food for cattle, sheep, and horses. They like it better in the spring and early summer when it is tender, just like we like the tender leaves for greens. Pe-shaw-you! I wish I had some now."

Duva-taw-neh and Chee-coo-see-gah giggled because they knew mother was cooking the tender leaves they had gathered just this morning to give to E-taw-gah.

He continued, "When most of the ah-kuh is in bloom that means the range is ready for the cattle to be put on it. Animals eat all of the plant except the roots and old stems. It is very good forage as there is so much of it growing in Nevada.

"People get food and medicine from it, too. You both know how to dry the heads and knock the seeds out with a stick, then toss the seeds and slow coals in a winnowing basket to remove the hulls before you grind them into meal to make mush (ah-kuh). The root makes a good medicine to take in the spring. It also makes a good poultice."

"This is a good plant," said Chee-coo-see-gah. "Our animals like it and we like it."

"Thank you, E-taw-gah," said Duva-taw-neh. "I must go home now and help wash the dishes."

She really was hoping the dishes would be all washed. She wanted to go home to be sure the fire had not gone out under the greens. She was anxious to surprise E-taw-gah at supper.

VIII

PLAYING IN THE MARSH

One evening the children came in tired and happy. They dropped down in the shade. The older sister glanced at them and then looked again. "Duva-taw-neh and Chee-coo-see-gah, your hair is covered with snow. It was warm here today and the sun still shines. The snow on your heads does not melt, so maybe you are just getting old."

Duva-taw-neh and Chee-coo-see-gah looked at each other and giggled. They knew she was teasing them and wishing they would tell her what they had been doing.

"We were down by the swamp, trying to catch a mud hen, when some other children came by. There were enough to play. We took sides and tried to get close to each other. Everyone had a cat-tail. When he hit a person from the other side, that one became his prisoner. Everyone who played has snow on his head. While he played, the air was so full of the white fluff from the cat-tails, that it seemed there was a blizzard." While she talked, Duva-taw-neh showed with her hands how they had hit and caught each other.

"Hum, hum," said Sawabe. "It is good that you do not live in a tule house. When I was a little boy, we played close to the swamps, sometimes, but not in them. Our fathers gathered the tules, which grow with the cat-tails. They did not wish them to be broken or mashed down. They chose the long ones and wove them together with willows and Indian string for houses. The houses were good. Air could go through to keep them cool but rain ran off the sides."

"Did you have to sit down all the time, E-taw-gah? Tules are no taller than I. The houses must have been very small." Chee-coo-see-gah was feeling sorry that Sawabe had not had a nice house when he was a boy.

"No, no, I will show you. They laid them together--one out this way and the end of the next one out that way. When the bunch was big enough it was tied tightly and later put with other bunches until there were enough for all around the house. The door was an opening like the one on the side of Duva-taw-neh's dress." When Sawabe said this Duva-taw-neh looked, and there was a rip in the seam of her dress. She covered it quickly with her hand and went into the house to find a needle.

Sawabe smiled and sent Chee-coo-see-gah to get his sack of tobacco and the cigarette papers. In this way he waited for Duva-taw-neh to come back, before going on with his stories about tules.

"The fishermen made boats of tules. They tied many bunches together until they had a boat as thick as your mother's new mattress and wider than a chair. The fishermen could sit or stand on them. They made them go with a long pole.

"Sometimes the women and men made big bags, by knotting small tules together. These were good for carrying home ducks and fish."

Chee-coo-see-gah was thoughtful. He was making little marks in the dust with a stick. Finally he set the stick up straight in a heap of dirt and again questioned Sawabe.

"How did they catch enough mudhen to need a bag? Every time I catch one, the rest hear and fly away. They do not come back for a long time. I get tired waiting and come home."

"Foolish boy, you talk as if my father had to wait for mud hens to fly into his arms. Little boys long ago were just like little boys now. They lay down in the bushes to wait for mud hens and ducks to come close to them. Then they reached quickly and caught them. Men had much work to do, so they made a net to catch birds and small animals."

"It will take a long time to tell you about the nets. Let us now talk more about the tules."

Duva-taw-neh spoke, "Some of the children said the bottom of the tule is good to eat, but I did not eat any, E-taw-gah. I remembered what you told us about being sure it was something which would not make us sick."

"And so it is, child. If the leaves are flat, you may eat the blossoms and the lower stems, but on either kind the white stems are good. Pull up a stalk and you will find the lower part is tender and good. You must pull it carefully or it will break off.

"My mother dug the roots, too. She could pull and dig out big bunches of them. By twisting the roots, the knots could be gathered. These were tied loosely together and dried. When dry, they were pounded between two rocks and the straws taken out. The meal that was left was used for mush."

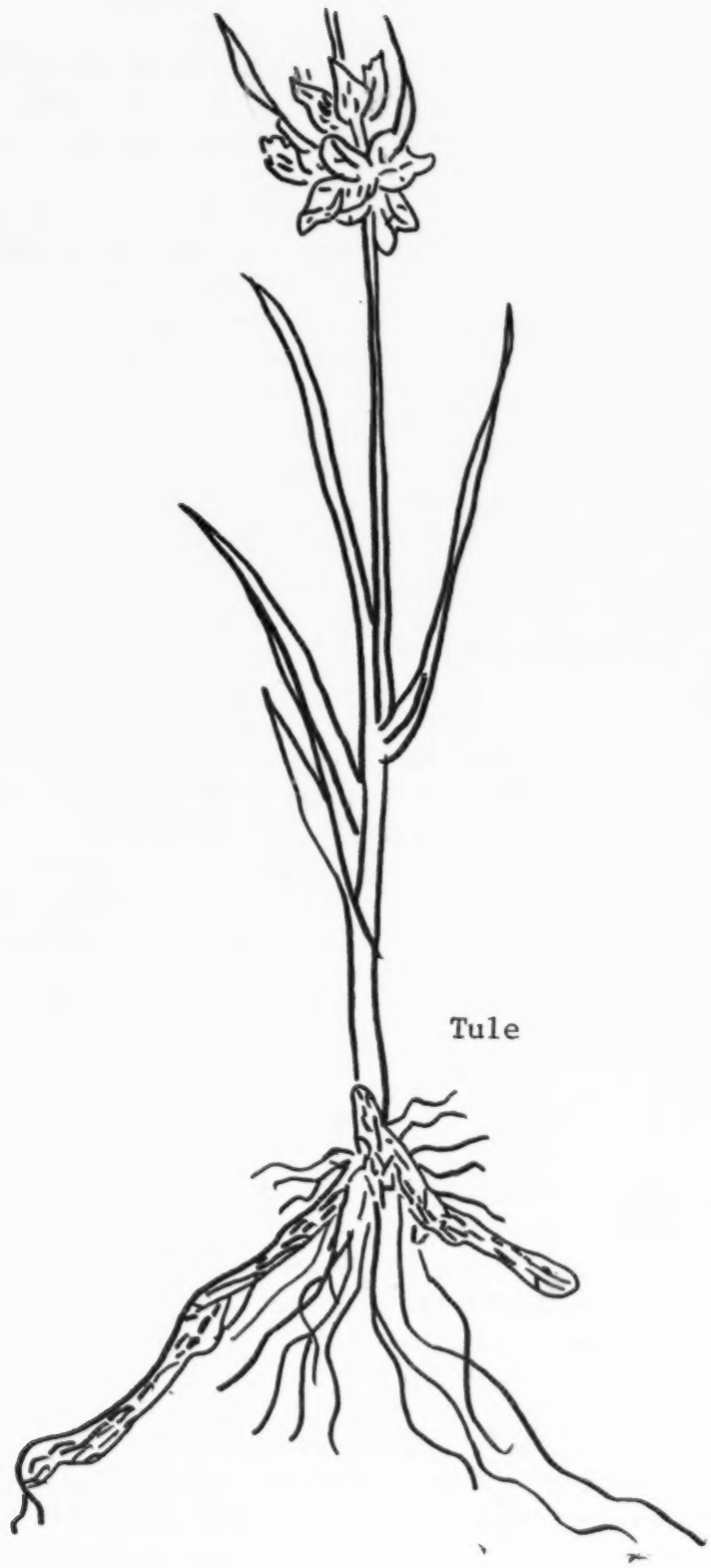
Sawabe cleared his throat and began to roll himself another smoke.

Chee-coo-see-gah knew that E-taw-gah did not wish to talk any more, so he picked up his stick and started for the home of his friends.

Duva-taw-neh went into the house to watch her mother make bead work.

The next morning after breakfast, Duva-taw-neh helped her mother with the dishes. Chee-coo-see-gah went to the barn with his father. Sawabe sat with some of his friends. The men's hands were busy pointing and showing the shapes and sizes of the things they were speaking of.

Cat Tail



Tule

Bitter Root
Lewisia Rediviva

Indian Hemp

Sometimes there was disagreement over some detail. When this happened, each man told what he thought, the rest listened closely. After a time all would nod and smile. This meant that they were all of the same mind.

Duva-taw-neh was hanging some clothes on the fence when Chee-coo-see-gah came back from the barn. They talked for a little. When Duva-taw-neh was finished with her work, both children stood waiting for E-taw-gah.

As soon as he was seated on the bench under the tree, Duva-taw-neh said, "Chee-coo-see-gah told me to ask you how they made the big nets you spoke of yesterday."

"I will tell you how, but first you should know why they made them. Long ago, Indians had no guns. It took a long time to make arrows, and they were easily lost in the water and tall grasses. They thought of making nets of Indian string.

"The nets were as wide as from my hand to my chin," he put his hand out as far as it would go, "and as long as the rope you use for catching your horses."

"Early in the evening, three, four, or five men went out and hid the net. They put it where the ducks and mud hens would settle for the night. Before sun-up, lots of men would go and quietly take their places, close to the net. When Duck Chief signalled, the men surrounded the birds and drove them toward the net. There they were knocked senseless or killed with clubs."

"Why did they not fly away, E-taw-gah?" asked Chee-coo-see-gah.

"The Duck Chief waited until the birds were too fat to fly very well, before he called the men together to catch them. Also, when the men stood up to surround them, they became so frightened that they got in each others way when they tried to fly."

"What is Indian string?" asked Duva-taw-neh.

"It is made from we-ha (Indian Hemp). We-ha grows by the ditches and by the river. Some grows in the meadows where the river overflows in the spring. It grows high as my shoulder. The stems are small and stiff. They are silky to feel. Sometimes they are reddish. From the main stem, other stems branch out. The leaves are long and narrow. At the top of the stem and where some of the branches grow, there are bunches of tiny white flowers. If the stem is broken, milk comes from it.

"In the fall the leaves dry and fall from the plant. The stalks get dry and after frost, the skin peals off and droops down like rough hair. Our people gathered this fiber, being careful not to break the plant or pull it out.

"Indian string was made from the fiber. It took a long time to make it as it had to be twisted and twisted. First you pulled out some pieces and straightened them through your fingers. Then you put them on your leg up here and rolled them with your hand," Sawabe showed the children how, by drawing his hands apart and then making the proper motions on his thigh. "More fibers were added so that the string got longer and longer without getting any bigger. After many weeks there would be enough to make a net.

"The nets were used for catching rabbits, ducks, mud hens, and many other small animals and birds.

"The people made string for other things, too. They needed string for the same things we use it for today and more. Sometimes they used it on their bows instead of sinew.

"Indian hemp would be a good plant for us to have in our garden," said Duva-taw-neh. "The cow could eat the leaves before they fall off and we could use the fibers from the stalk."

"That is partly right, Duva-taw-neh," answered Sawabe. "We would be happy to have it in our gardens. We would also be happy if the cows would eat the leaves. They only enjoy eating the flowers, and when those are gone the we-ha has no way to make seed for us to plant in our garden."

IX

SOME VISITORS

The family was sitting on the porch after supper when mother said, "Someome is coming. I can see the horses over on the hill lift their heads to look at the road.

"Chee-coo-see-gah, see if you can get to the gate and open it before the visitors arrive."

Chee-coo-see-gah ran, and as he went, little clouds of dust rose from every foot print. Before he reached the gate a car came around the point and up the hill. It was steaming and the people in it looked tired and dusty. Chee-coo-see-gah hurried faster and soon the gate was open for the visitors. They drove on up to the house while he closed the gate. He had taken a good look at the car and knew two things about the people. They had had a flat tire during the day, so probably came from some distance. away. There was a water bag tied on the side of the car so they must have come from the east where the road crosses a desert.

The mother came from the kitchen door and as she stood, she smiled so that Duva-taw-neh knew that they were friends. More than that, her mother called the woman Ee-boon-ee (younger sister). Duva-taw-neh knew that she lived on a reservation east and farther north.

The husband and the three children of Ee-boon-ee came to be greeted by the people at the house, then they took their bags and bundles from the car and put them on the porch.

The children pretended not to look at each other. The cousins stood or sat close to their parents, looking around the room and shyly peeking at Duva-taw-neh and Chee-coo-see-gah, who did the same at them. They all knew that many Indian children do not like to be stared at. They wished to be polite, but could not help looking once in a while.

Ee-boon-ee sent one of her children to bring one little bag which she had brought as a gift. When the child returned, Duva-taw-neh and Chee-coo-see-gah watched while their mother opened it. In it were some brownish, forked roots.

"Oh, I am glad for these. It has been a long time since I have eaten kan-oo-tch (Bitter-root). See, children, my sister gathered and dried these for us. More of them grow where she lives than grow here. We will cook some for supper tonight and save the rest for a time when some one gets hungry for just this certain thing.

"Duva-taw-neh, put some in water to soak. This brown cover will come off the roots. Then they will be ready to cook," said mother, giving Duva-taw-neh a handful.

"Here is one with the flower on, mother. The flower is thin and dry, like pink paper. The petals are of two kinds, thicker, wide ones below and narrow, pointed ones above. There is a hole in the middle where the yellow should be," said Duva-taw-neh, looking closely at the flower and root that she held in her hand.

"That is where the seeds were," said her mother. "When they were growing, they were covered with a little, pointed cap. When this cap was knocked off, by the wind or by an animal's foot, the seeds were scattered around. These little plants grow close to the ground and have few leaves. They have a forked root like this so they can feel around in the rocky soil for water."

Chee-coo-see-gah wished to show his cousins that good things grow close to his home, too, so he said to the boy, "I will show you where some gum grows. Once our father had no money to give us. E-taw-gah showed us how to find gum for ourselves without going to the store."

Chee-coo-see-gah started along ahead of his cousin, but when he got to his grandfather's cabin, he stopped to get the digging sticks. From there on, the two boys walked together. Sometimes Chee-coo-see-gah told his cousin a little about the things they passed.

"Watch for snakes, cousin. We see only a few, but it is best to see Mr. Snake before he sees us. E-taw-gah says that it is good to keep your eyes busy as you walk along. That way we find things that taste good."

"That is true. My mother said she would like E-taw-gah to come to visit us. She said that he knows many things I should learn. If he ever comes, I will listen and learn so that when I am old, I can tell stories, too," the little cousin replied. "Tell me what we are looking for and I will watch, too."

"It is see-goop, a green bush with yellow on top. We will find some soon. When we come to it we will not have to look. It is so pretty and bright that it calls to your eyes. This land has been plowed and gets too wet from the ditch. See-goop would rather live where it is drier, although it does not like just sand to live in. We should find some over there," said Chee-coo-see-gah, pointing his lower lip toward a flat place below the foothills.

"Long ago, many antelope fed there in the winter. Now they do not come any more. E-taw-gah says that even if there were lots of antelope, now they would not come. The grass is not good any more and the See-goop has taken the land. He said that perhaps there was a long winter with a heavy snow that was a long time melting. This would have kept the antelope feeding in this lower meadow too long. They would have eaten the

grass too short and pulled much of it out. When the grass was scarce, the see-goop crowded in. I heard the farmer say that where there is see-goop, cattle have fed too long. He calls see-goop, Rabbit Brush."

After walking along in silence for a time, the cousin said, "I like rabbits. Father killed lots of them last winter. My mother made me a blanket of the skins. We slept outside when we were coming to see you. I put my blanket under me. It felt as good as a bed. The ground was not hard or cold. Have you a rabbit skin blanket, Chee-coo-see-gah?"

"No, but when I earn some money I will buy a gun. Then I can kill enough rabbits for my own blanket. It will take a long time for us to eat one hundred rabbits, because my father likes to have beef, too."

While they were visiting, they had been walking along the road toward the foothills. When they left the road, they could not go so fast as the loose dirt seemed to take hold of their feet.

There were little trails through the sage brush, and around the wild peach bushes and rocks. Part of the time the boys followed the same trail, but often each chose his own way. The trails had been made by cattle or rabbits, or by the Indians' dogs which came out to hunt rabbits, or, maybe, just to chase them.

Before long the boys came to a patch of green bush with the yellow on top. It looked beautiful against the duller colors of the hills and shrubs.

Chee-coo-see-gah showed his cousin the knobs that were at the base of one plant. They were small and hard to pick off. Some of them were a little above the ground and some of them were a little below, so they used the digging sticks to uncover them. They went from one plant to another until they gathered plenty for themselves.

The boys left something at each plant. They had both been taught that one must leave something wherever one takes away. They put a bit of string, a piece of wood, or a marble in each hole before they covered it up again.

"You are lucky, Chee-coo-see-gah, to have gum bushes so close to your home. It is like having a store where you pay no money," said the cousin.

After a long time he succeeded in chewing all the small lumps into one lump of gum. He decided that he liked to chew it, even if it was not sweet or spicy like gum bought at the store.

"I guess you like see-goop to grow here," the cousin said.

"We do like it for the gum it gives us, and for its beauty in the fall when other flowers have gone to seed. It would be better, though, if it were more useful. Cattle and sheep do not like it and it is bad for them to eat it in the spring. The gum is good fun to chew but it is not food. The yellow would look just as pretty if it grew on the steep hill sides where the cattle cannot climb. This land should be used for grasses again.

Oregon Grape

X

INDIAN LUNCH

While the boys were away, Duva-taw-neh and her little girl cousin were getting acquainted. For a while they sat listening to their mothers talk. Every little while, Duva-taw-neh would poke the soaking roots and pinch them a little to see if the brown covers were coming off. After what seemed to her a long time, pieces of it slipped off in her fingers and came to the top of the water. Her cousin smiled and showed her how to rub the roots gently between her hands to remove the rest of the covering.

"What will this taste like when mother cooks it?" Duva-taw-neh asked.

"My mother sometimes puts cheese with it like they do with macaroni at school. It tastes the same way," the cousin answered.

"We eat our lunch at school, too," said Duva-taw-neh. There is a cook who fixes our lunch. We have bread and butter and milk every day. Sometimes we have things that I do not like, but Miss Day tells us how the food makes us grow and feel good, so most of the time I eat it, anyway. All the children are glad when we have oranges. Miss Day has to scold us, sometimes, because we forget and drop the peelings on the school grounds."

The girls went outside and sat on a bed that was under a tree.

"We have not just one cook at our school. We have all the children and our teacher," the cousin said quite proudly. "Last year, there were eight children in our school. Four were cooks one week and four were cooks the next. When we were not cooks we were housekeepers. Our teacher helped us. She wrote the names of the foods we need for lunch on the blackboard. Then she put how much we should use beside the names. Some of the girls made cook books.

"Sometimes we asked our mothers how to fix Indian foods. Then we wrote the names on the board and Miss Day put them in her cook book. We learned from her and she learned from us.

"One day, we had an Indian lunch. The girls brought dried choke cherries, elder berries, and buck berries. The boys brought Indian tea. We soaked the choke cherries and buck berries. Then we mashed them up to get the seeds out of them and made jam to eat with Indian bread. We made pudding of the elder berries. We put boiling water over the twigs of the tsu-doop (Mormon Tea) and let it set until the water was pink.

"After lunch our teacher wanted to know all about taw-e-sha-bui (Choke Cherries) so that she would know what to gather if she should have time to berry picking sometime.

"I told her 'You will know choke cherry by the reddish-brown branches that have yellow freckles on them. The bushes are really small trees, that grow along creeks and in other places where there is a little water. The leaves are oval and have an edge like a saw. The flowers grow along the stem. They are white with a sort of fluffy yellow center, and smell very good. When the cherries are ripe, they are almost black and about as big as the end of my thumb. They have a big seed. When you eat Choke Cherries, your mouth will get brown and feel dry."

Duva-taw-neh interrupted, "Choke cherry flowers were one of the first basket designs. The frames of the baby boards are choke cherry branches. It is a good tree."

"It is not always good," the cousin said. "If sheep eat too many of the leaves, they get sick and often die. It has such a bitter taste that animals do not like to eat it if they have anything else so it is not as dangerous a poison as some others."

"Do you know what Wee-a-pui (buck bush) looks like, Duva-ta-neh?" continued her cousin.

Duva-taw-neh thought a minute and then shook her head.

"It is a big, thorny bush. The branches are silver and very thorny. There are so many branches on it that it looks round. In the spring, it has tiny white flowers very close to the stem where the leaves grow. The leaves are very small and almost round. They grow in many little bunches along the stem. The berries that ripen in the fall are very small too, and grow so close to the thorns that they have to be shaken from the tree onto a sheet or canvas."

"I believe those must be the thorns that E-taw-gah told us were used for pins, long ago," said Duva-taw-neh. "He also said the animals did not like to eat the leaves unless it was a very hard winter."

While they were talking, E-taw-gah had come up and sat down on a box, close to the girls. He said, "I am glad you know the bushes so well. Would you like me to tell you about some other one?"

"Oh, yes, tell us about the Elder Berries," the little cousin said.

"We call them hu-bu, but I know what you mean," said Sawabe.

"First, I will tell you where to look. The hu-bu live in the higher places where there is a little water. They grow about the same places that Choke Cherries grow, but there are not so many of them. The bushes seem to be growing straight up in the air because the flowers, and later, the berries grow on the very top of the bush. This makes the top

seem flat. Most of the leaves are too high for a sheep to eat and the fruit is hard for a man to reach.

"The leaves are light green and have an edge like a saw. They are oval and have a little, crooked point on the end. The flowers grow in a flat cluster at the end of the branches. They are white. The smaller stems are smooth and light green, but the larger ones are dark and rough. The berries are dark blue when they are ripe.

"Since there are not many of the elder berry bushes, we used to hang some of our clothing on the bushes to keep the deer from eating the fruit. We gathered the bunches of berries, put them on brush we had laid out and then put more brush on top. The berries dried instead of getting rotten."

"Did you keep your clothes on the bushes all summer, E-taw-gah?" said Duva-taw-neh.

"No, we did not need to do that because the deer do not care to eat the elder berry leaves or flowers until fall. After frost, they like the taste of the leaves, fruit, and twigs. Cattle and horses are the same way, so this bush is not very important as stock feed."

Duva-taw-neh was thinking. After a little, she said, "It seems to me that choke cherry, buck berry and elder berry are just good for people. I like the fruit, but maybe we should take some of the bushes away to make room for things that the cattle like to eat."

"No, that would not be a good thing to do," said E-taw-gah, "Plants can be good without being good to eat. The cattle and horses need these bushes for shelter. When the sun is hot, they must have some shady place to rest. In the fall and winter, and when the cold spring winds blow, the animals would get thin if they had no bushes to shield them. I think we will leave them growing where they are."

Then the cousin explained, "Before you came, E-taw-gah, I was telling Duva-taw-neh about the Indian lunch we had at school. The boys brought twu-doop (Indian Tea). Can you tell us about it too?"

"Yes, it looks like a very tiny tree with green branches and no leaves. The branches seem to point up in the air instead of out toward the other plants. There are two kinds. The best is yellowish-green color; the other is more gray-green.

"In spring, there are funny little yellow blossoms at the joints. On the father plants, these blossoms turn to a little fringe. On the mother plants, the blossoms make a little, brown seed. These seeds were gathered, roasted, and used for coffee.

"We gathered the stems any time of the year and brewed tea.

"Some of the Indian people used the tea to make paint and dye. They heated certain little flat rocks. These turned black and could be crushed to a very fine powder. This powder was mixed with Indian tea water, to make black paint. The tea made it stay black all the time."

"Was it medicine, too, E-taw-gah?" asked Duva-taw-neh.

"Very good medicine. It made people well when they had kidney trouble. It kept people from getting sick when they had to camp where the water was not good. Tsu-doop grows all around where it is dry and where there is only a little water. People could always find it to put with the water if they were not sure the water was good to drink."

"Do the cattle like to eat it too?" asked the cousin.

"Yes, they eat lots of it in the winter when other things are scarce," said Sawabe, lighting himself a smoke.

He sat and smoked a little in silence, then he asked, "Did your teacher like the Indian food?"

"She liked our lunch, but one time she did not like Indian Food.

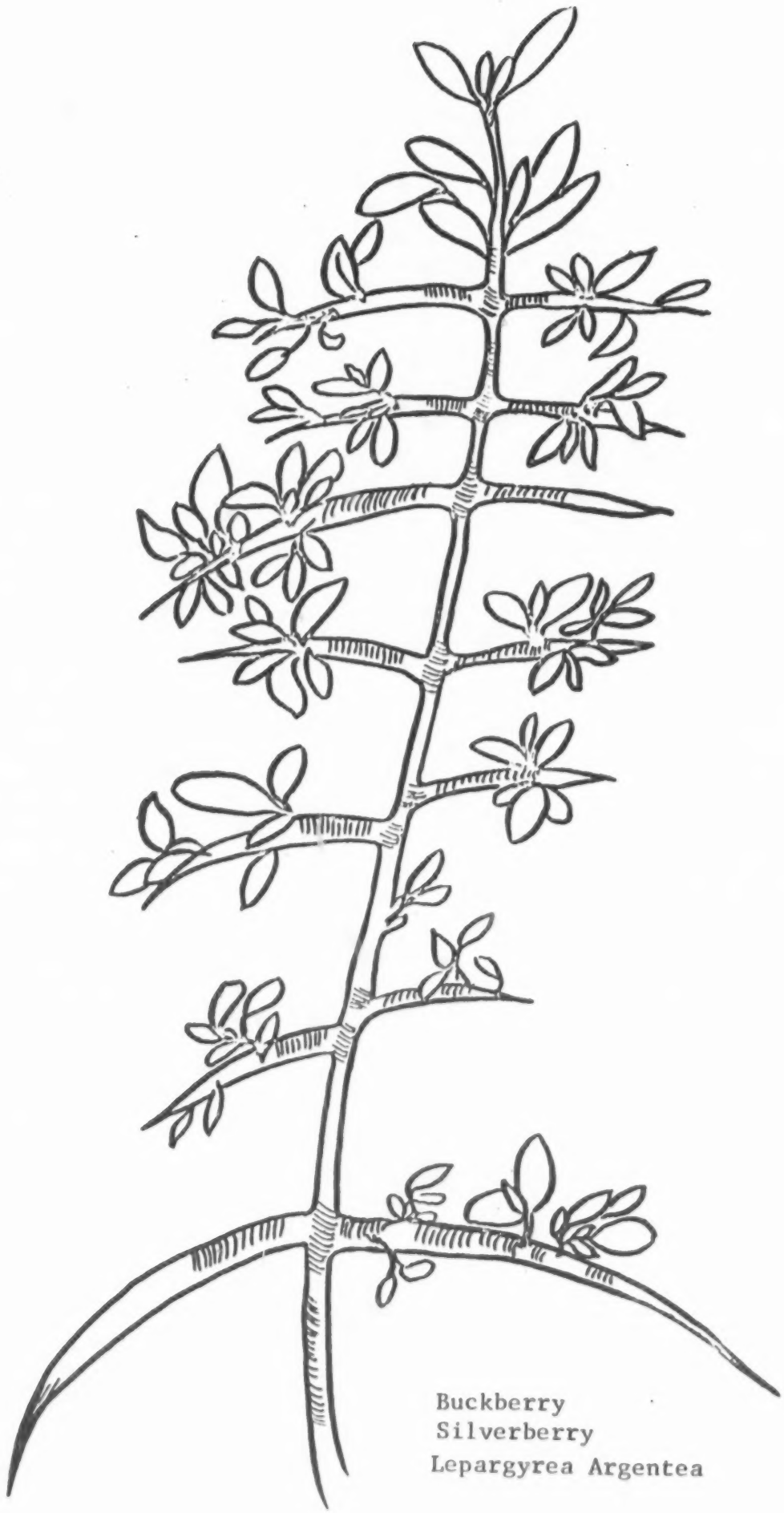
"One day she asked John, the policeman, what a plant she had seen was. She told him how it cracked the ground before it came up and then came through the ground, big and fat like a man's thumb. The top was reddish and had little leaves close to it. John told her it was good to eat. The next day we went out to dig some Sego Lily bulbs for our garden, and she pulled one of these plants up and took a big bite. We thought she was going to whistle and she shut her eyes. Then she spit out the piece that was in her mouth. She did not talk very much for a long time and walked behind us. We knew why. She had told us at school that it did not look nice to spit. This time she could not help it, so she walked behind, so we would not see.

"When John came to see who was absent the next morning, she told him that she did not like to eat Indian Asparagus. She said one bite tasted bad all day.

"He laughed and told her she should have pulled one that had no red cap on and grew close to the creek. He knew without her telling him that she had tasted one that grew on the hill."

"I know which plant you mean; it looks like a short, fat asparagus. Our teacher said it was a cousin to the Snow Flowers we have on our mountains," Duva-taw-neh said.

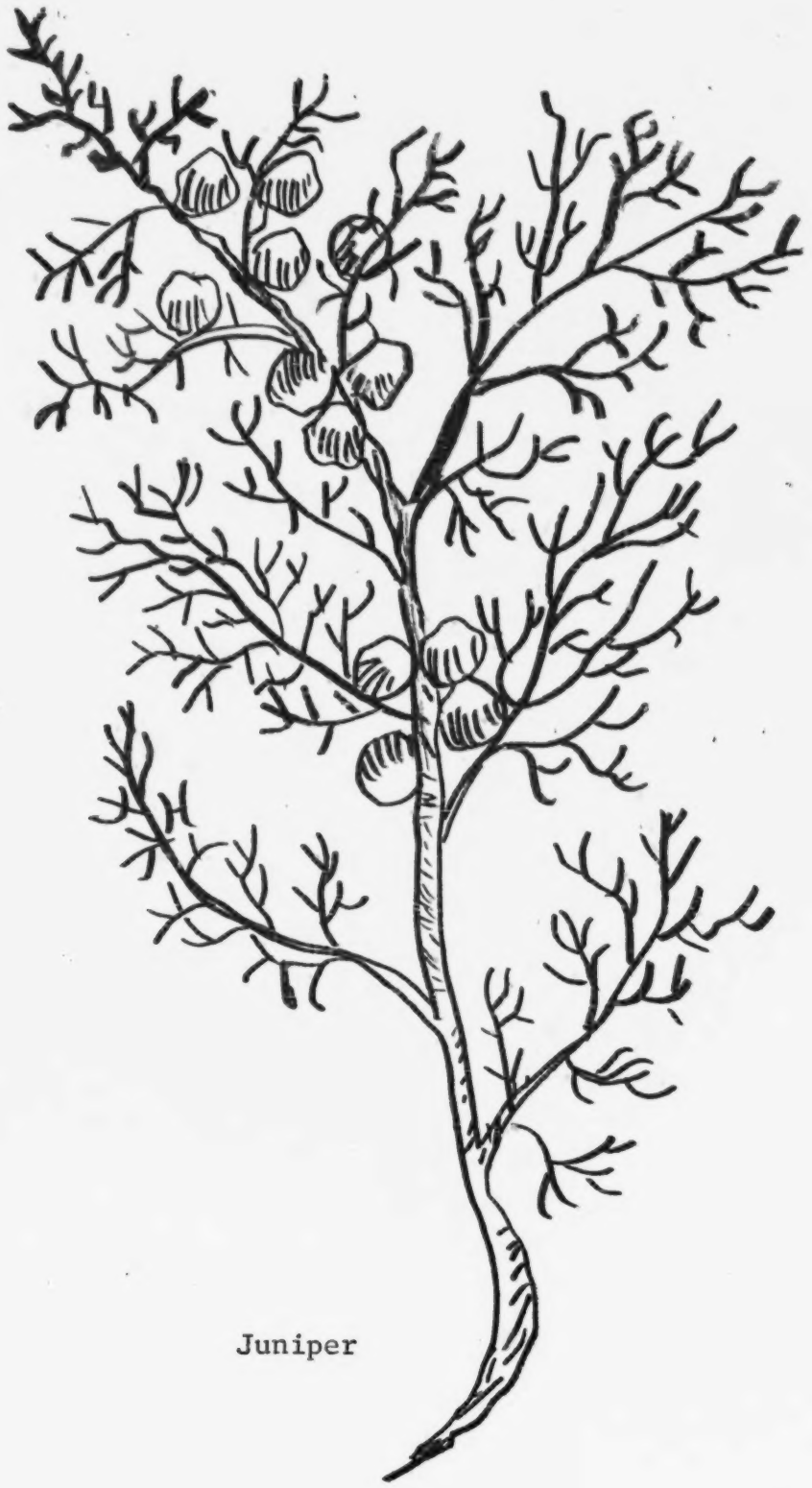
They all laughed a little because the teacher had not learned enough about the plant before eating it.



Buckberry
Silverberry
Lepargyrea Argentea

Chokecherry
Prunus melanocarpa

Just then, they smelled the coffee cooking and knew that supper was nearly ready. Duva-taw-neh took her cousin to the wash bench. E-taw-gah came and helped them say their thanks for good clean water and good food.



Juniper

XI

BAD MEDICINE

Several days after their cousins had gone home, Duva-taw-neh and Chee-coo-see-gah were playing ball in front of the house. They saw father riding his horse slowly into the yard. He was not smiling as he usually was when he saw them. He got off of his horse, and took off the saddle, acting as if he were busy thinking of something else. He hung the saddle over the thatch fence, in a shady place near the gate, then turned the horse loose in the corral. He threw the bridle over the saddle horn and started toward E-taw-gah's house. He still had not smiled nor acted as if he had seen Duva-taw-neh and Chee-coo-see-gah. They stopped playing ball and watched him go.

Duva-taw-neh said, "Something bad has happened. Let us go and hear what he tells E-taw-gah."

They both walked very fast to Grandfather's house, wondering what could be the matter. They stopped a few feet from the porch, for father was standing with one foot on the step, talking to E-taw-gah, who was sitting on the porch.

Father was saying, "I am sure it is Loco they have been eating. I have noticed that steer's hair was getting rough and it looked very poor. None of the other cattle looked very fat, so I did not think much about it. Today, I saw this same steer standing by himself and when I came back in about an hour, he was still standing in the same position. All the other cattle had had a drink and had gone off to eat. When I tried to make him go on with the other cattle, he jumped as if he were frightened, then he could not walk straight. He staggered like he had forgotten how to use his muscles, almost like an old man with paralysis."

E-taw-gah answered, "Yes, that sounds like he has been eating Loco Weed. Why do you think he has been eating it? You know that no animal eats Loco Weed unless he has a hard time finding anything else to eat."

"The cattle have been up in this higher range for a long time," Father said, "and they all have to walk to this one water hole to drink. The food plants close to the water are all eaten. There is nothing left but Woolly Loco, Rattle Weed, Rabbit Brush, Larkspur, and some Death Camus."

"Yes, those are all poison plants," E-taw-gah answered. "Maybe your steer has sore feet and will not walk very far to look for food, so there is nothing left close but poison plants."

"What should I do, Sawabe?"

"You should put him in the afalfa patch so that he will get over being constipated from the loco. As soon as he gets fat, you should sell him, because when animals eat loco, they sometimes get the habit and go back to it when they get a chance. Other cows will see him eating it and they will learn to eat it, too. So you had better get rid of him as soon as you can."

Father did not look as worried as he had and he turned around and smiled at Duva-taw-neh and Chee-coo-sêe-gah.

He said, "I think E-taw-gah should go with us up to the water hole and teach us about the poison plants. When you are grown and your cattle or horses eat poison, you may not have anyone you can go and ask."

"Oh, E-taw-gah, will you go?" asked Chee-coo-see-gah.

"Yes, I will go if you will help your father catch horses for all of us. It is too far for an old man to walk."

Soon they were all on their horses, riding up the mountain toward the summer range. Where the way was wide enough for all four of them to ride side by side, they talked.

"What is Loco?" Chee-coo-see-gah asked anyone that would answer.

Father waited for E-taw-gah to answer.

"I heard the farm agent say Loco was a Spanish word that meant crazy. He told us a lot about poison plants at a meeting we had at the C.C.C. camp last year. He said there were five kinds of loco plants that grew around here, but Woolly Loco and Rattle Weed were the most dangerous. Rattle Weed is the worst, not because it is more poisonous but because so much of it grows everywhere. It is poisonous to cattle, sheep, goats, and horses. It is a plant that has no main stems, and lives two or three years or more. It has a long root system so it can get along without much water. The olive-green leaves are slender and covered with hair. Most of the plants grow close to the ground. Some of them have white flowers and some have purple, or any shade between these two colors. When the plants are in seed they have pods that will rattle like a rattlesnake if you brush against them. That is why they are called Rattle Weed."

Chee-coo-see-gah said, "I will see if I can pick one out from what you have told us."

They came to a place where they had to ride in single file but were soon on the broad mountain side again. They hurried to catch up with father and E-taw-gah.

"Now tell us about Woolly Loco, E-taw-gah," said Duva-taw-neh.

"Woolly Loco is covered with hairs, too, just like you would think from the name. Most woolly locos have purple flowers. It was the first loco that white people found was poisonous to animals. The leaflets are very hairy and broader than those of Rattle Weed. Woolly Loco has a true stem, while Rattle Weed does not. It usually

grows in lower places than rattle weed and there is seldom very much of it. The plant seldom gets a foot high. It is very poisonous to horses but cows will seldom eat it."

By this time they were up on the range where the cattle were kept during the summer months. There were still many plants left for the cattle to eat. It was the job of the range rider or the one that owned the cattle to watch all the plants that grew on the range. He must see that the cows got plenty to eat. He must move them from one place before the plants were eaten so close to the ground that they might die. He must see that the cattle were moved before it was time for the good plants to make seed and scatter them on the ground. He had to do this so that there would be plenty of food the next year. He had to watch to see that there were plenty of food plants so the cattle would not get started eating poison plants. He had to see that the cattle were not killing the plants by walking on them too much.

"When we want to say all this in a few words, we say, 'He had to prevent over-grazing'."

They were within sight of the water hole now. They could see in the distance the poor steer that they thought had been eating loco.

E-taw-gah said, "Now you must start looking for the poison plants. There have always been many here, but the cattle will not eat them if there are plenty of food plants. The animals always eat on their way to get a drink and on their way back to the range, so it is only natural that the good plants near the water hole would be eaten first. You should be able to find woolly loco and rattle weed from what I have told you."

Duva-taw-neh and Chee-coo-see-gah rode on ahead and off on either side of their father and grandfather. They were looking for Woolly Loco and Rattle Weed.

Duva-taw-neh called to them, "I think I have found a rattle weed."

They rode over to where she had climbed down from her horse.

Father said, "Yes, Duva-taw-neh, that is Rattle Weed." He broke off a piece and handed it up to E-taw-gah.

"Yes, this is Rattle Weed," said E-taw-gah, shaking his head up and down.

After they had pulled up the plant and examined it well they got back on their horses and started on toward the sick steer.

When they had ridden a little way, Chee-coo-see-gah said to his father, "There are lots of plants over there that look like Rattle Weed but all of the blossoms are dark purple."

"No, those look like Woolly Loco to me," Said Father.

They all rode over to the patch of plants and got down from their horses.

"Yes, these are Woolly Loco," E-taw-gah said after they had handed him some to examine. "They often grow in big patches like this."

When they got close to the sick steer, father, Chee-coo-see-gah, and Duva-taw-neh left their horses for E-taw-gah to hold.

Father said, "I am going to try and find out if the steer's feet are sore."

Chee-coo-see-gah and Duva-taw-neh stayed back out of the way. Father shouted at the steer to try and make it walk. It would not move. He came close and slapped it on the back with his open hand and shouted at the same time. The steer jumped to one side and took a few staggering steps. He acted as if he did not know which way he was going and also like his feet hurt. But father was not sure about his feet, so he took hold of one back leg and held it as well as he could, between his own legs, while he looked at it. Sure enough, the foot was cracked open and filled with small stones, dried mud, and beards from grass seeds.

"No wonder the poor fellow did not want to walk very far to get feed. We will have to bring the wagon and haul him down to the alfalfa patch," said father.

They waited for E-taw-gah to get down from his horse and then tied the horses to some sage brush. Then they walked slowly toward the water hole.

E-taw-gah was saying, "There used to be lots of Wild Parsnip (ha-kee-noop) up here. It is the most poisonous of all our plants. The white man sometimes calls it Water Hemlock. Just a little bit of the root will kill any animal or person."

"What shall we look for, E-taw-gah?" asked Chee-coo-see-gah.

"Most of the Parsnips grow one or two feet high and always where they can get plenty of water. You see more stem than you do leaves. It has bunches of tiny, white flowers at the top."

"Here is one," he said, pulling it up; "You can always tell this species of Wild Parsnip if you will take the root and split it lengthwise. The rootstock is full of little rooms. You must be careful never to eat the root of this plant. If you ever do, you must vomit as soon as possible. Cows cannot vomit, so they always die if they eat very much wild parsnip root. Animals will not get the root very often unless it is plowed or washed up on top of the ground."

"Now, let us see if we can find some ko-gi-a-do-noop. Death Camus, the white people call it. It is all through blooming now so it will look more like marsh grass. Early in the spring, it has yellowish-white flowers in a bunch at the top. If you dig it up it looks almost like an onion. It is not likely that grazing animals will pull it up."

'Duva-taw-neh and Chee-soo-see-gah dug up several clumps of grass before they found any bulbs. When they did find some, they brought them to E-taw-gah to see.

"This is Death Camus," said E-taw-gah.

"Are there any other poison plants up here, E-taw-gah?" asked Chee-coo-see-gah.

"Yes, Chee-coo-see-gah," he answered. "If we will go over there in the shade of those trees we should find some Larkspurs. There are two kinds to look for; the tall Larkspurs and the low Larkspurs. The tall Larkspurs like the shady, sheltered places where there is plenty of water. They grow as high as Duva-taw-neh's head and sometimes as high as mine. You should be able to find them because they are so tall. They have leaves that are easy to recognize. They are shaped something like a star, each point having jagged edges. The flowers grow up and down a long stem and always have a long point at the back of each blossom. That is why the white people call them Larkspur. This point looks like a spur. The flowers are blue, violet, or purple in color."

Duva-taw-neh said, "Oh, there are lots of them over there. They are so tall and have such pretty flowers you could not help seeing them. Are you sure they are poison, E-taw-gah? They look so pretty."

"Yes, Duva-taw-neh," said E-taw-gah, "they are poisonous to cattle. Horses will not eat them and they do not seem to hurt sheep. After they have made their seed they are no longer poisonous to any animal. But in Nevada, they do not make their seed until late in summer. The stems and leaves, as well as the roots, are poisonous."

"Are low Larkspur just like these, only little ones?" asked Chee-coo-see-gah.

"No, Chee-coo-see-gah," E-taw-gah answered. "The low Larkspur are a different plant. The leaves on the low Larkspur are usually close to the ground and small. The leaves on the tall Larkspur grow along the stem and are larger. The flowers on both have the spur shape and look nearly alike. The low Larkspur comes up early in the spring and have finished blooming before summer is half over, so we will not see any blossoms now."

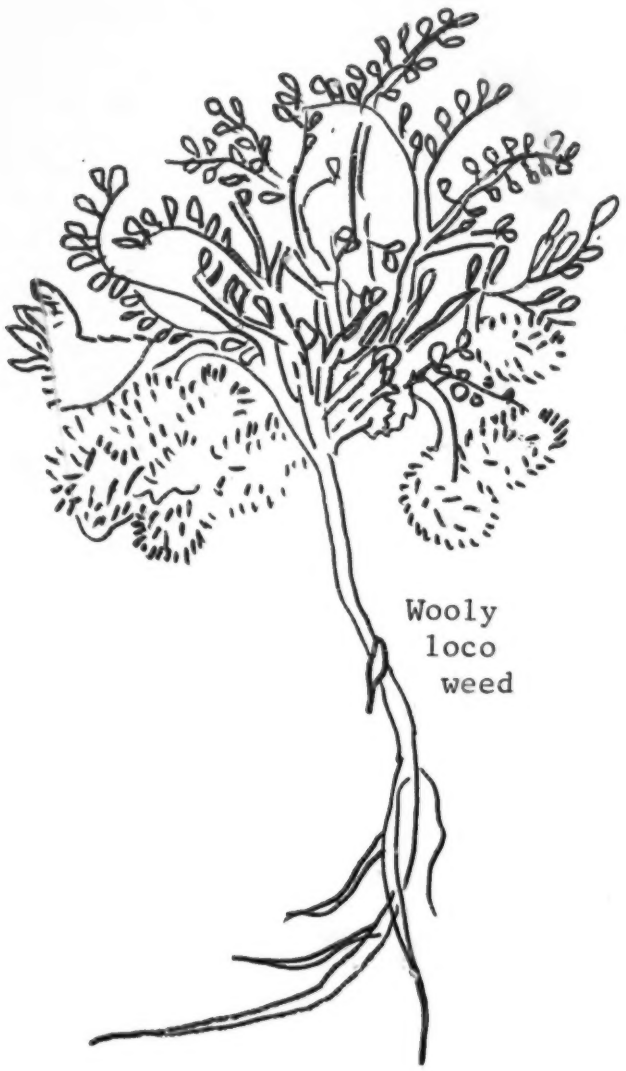
"This looks like what you are talking about," said father, pulling up a plant.

Father looked up at the sun and said, "We must start home now so I will have time to come back with the wagon to get the poisoned steer.

They all walked back to their horses and started home. As they rode along, E-taw-gah talked.

"All of these poison plants are bad if you do not know about them. But some of them have a good use too. The Locos make beautiful flowers that we use on Decoration Day. So do the Larkspurs. Death Camus is good for two kinds of medicine. A tea of Death Camus bulbs will make you vomit. So if you get poisoned, Death Camus will help you get rid of it. Some of the old people pound Death Camus root and put it on their knees when they are swollen (rheumatism). Wild Parsnip is used the same way on snake bite."

Rattle Weed



Wooly
loco
weed

XII

OUR GOOD FRIEND, THE WILLOW

"E-taw-gah, tell us about when you were a little boy. Our work is done and baby is sleeping. Chee-coo-see-gah and I will sit close here in the shade and listen," said Duva-taw-neh.

E-taw-gah nodded without speaking. He and the children were alone today. Mother had gone to gather willows for her baskets. There were still some hours of sunlight before she would return with her bundles of smooth, slender willows which would be peeled and hung in the house until she would use them.

"Our people have been very wise in their way of living," E-taw-gah began. "They have found many useful, willing friends among the plants and animals all about them. Your mother today is gathering one of our real friends. If we had not had the willow and learned to use it in many ways our people could never have lived here before the coming of the white man. Every Indian baby soon owes thanks to our friend, the willow. You know why, do you not, Duva-taw-neh?"

"I know, E-taw-gah, I know!" broke in Chee-coo-see-gah quickly. "Our baby baskets are willow. We ride in our basket on our mother's back when we are little babies and she takes us away from home."

"Yes, baby is sleeping in her basket now," said Duva-taw-neh. "When she gets sleepy and starts fussing, mother always puts her in the basket and she goes right to sleep like a good baby."

"Your mother could not take baby everywhere in a little cart or buggy as white women living in town do their babies," the grandfather continued. "Our paths are often rough and narrow. To ride in a little car would jolt and shake baby until she might be hurt unless your mother went very slowly and carefully. The gravel would soon eat up the rubber tires on the cart wheels. That is one of the reasons all our women still carry their babies in baskets just as I was carried when I was a baby, long ago.

"Willows were used by our people for many things. Before the white man came, we had not kettles or pans for cooking. Our women made round willow baskets, woven so closely that they held water. They could not put these on the fire. But by dropping hot rocks into whatever food they wished to cook, they could make it boil and have it well cooked."

"Did our people, long ago, have dishes, E-taw-gah?" questioned Duva-taw-neh.

"No. Small, water-tight baskets were our dishes, too, in the old days. Sharp sticks and fingers were our forks. But the women made a kind of long-handled spoon of the willows for stirring the pine nut soup.

"The white man's kettles and dishes are used by everyone now. Our women do not need to make water-tight baskets nowadays. No woman, living here today, knows how to make them.

"Long ago, our people used conical willow baskets when they were gathering their winter foods and carried them home. These baskets were light and were carried on the back just as the baby baskets are still carried."

"We have seen some of those, E-taw-gah," said Chee-coo-see-gah. "Old Sally has a big one. It is as high as I am. We were playing around her house and I tried to carry it. I must grow some more before I will be big enough to carry it as I should. It is really made for big people, is it not?"

"Yes, Old Sally's basket that you were playing with is one of the big open weave burden baskets. She uses that when she is gathering pine nuts. The Pinion cones will not fall through the spaces that are open between the willows in the side of the basket. But she cannot use it for gathering her seeds and berries. She has a closely woven burden basket she uses then. It is not so large. The seeds and berries cannot fall through any place in the side of it."

"Those are like the little ones mother makes for the Trading Post," Duva-taw-neh said. "And our teacher, Miss Day, has one hanging in the corner of the room where she has the rocking chair, her books, lamp, and radio. She has a bouquet of dried flowers in it. I thought it was pretty. Miss Day likes our Indian things, I think. She has lots of them just to look at."

"Yes, Miss Day likes our things because she likes us. She understands how very wise our people were in finding how to use the plants and animals about them. Everything our people needed they could get or make for themselves.

"Food getting was work for everyone in the old days. I will tell you more about our foods some day. But in order to get food it was often necessary to go out from the camp or our home. Sometimes

we went long distances, even out into the desert away from all our drinking water. We could not have done this if we had not been able to carry water with us in our willow water bottles that smell so good because they are all covered with the pitch from the pine nut trees. We can go without food for some time, but we must have water. They knew all the places where you could get good water. But they knew, too, how to take good water on long trips through the land that was dry and hot. Our good friend, the willow, has been used by our people since long, long ago, to make our water bottles."

"Yes, and you use the willow leaves for a stopper for your water bottle," said Chee-coo-see-gah. "You let me drink out of your water bottle. The water tastes good, too. Willow is our friend, all right."

Grandfather patted Chee-coo-see-gah's head. Then he began talking again. "Both of you have seen your mother and the other women using the shallow, fan-shaped winnowing basket to clean the chaff from the wheat. They are made of willow, too. Long ago, when our people gathered different seeds to use for food, these winnowing baskets were very important for cleaning the seed."

Duva-taw-neh smiled. "I tried to use mother's winnowing basket. It looks so easy to see her shake it and spill out the chaff. But I could not do it very well."

"You must try again, Duva-taw-neh. That is how your mother learned. You will soon be able to help your mother. It is not easy to winnow seed when you first try but you will find it easier each time you work at it. You should learn your mother's song. The one that begins: 'Who you chee wah!'. Then some fine day, you will get to be as quick and sure at winnowing as any of them.

"The open weave parching tray that your mother uses to roast the pine nuts before she grinds them is very like the winnowing basket in shape and size. But the loose weave allows the pine nut shells to sift through after they have been cracked, leaving the nut meat still on the tray. Open weave basket trays are used as sifters and also as graters for different things. All these are made from our faithful friend, the willow."

"I have always liked the willow, E-taw-gah. It is pretty growing along the ditches," said Duva-taw-neh. "Its leaves are such a nice gray-green. It bends and moves so gently when a soft breeze comes by. I have seen it growing up the canyon, too. It seems to always grow where there is water."

"Good Duva-taw-neh, you think and see much. You are right. The willow likes water. We do not need our baskets and water bottles so badly now. We can go to the store and buy other things to use, today. but even now the willow helps us. Our cattle and horses out on the range will eat its leaves. And the great roots of the willow that go down deep, help to hold the land from washing away when the rain falls."

Silver Willow
Salix Argophylla

Pine Nut
Pinus Monphylla

XIII

GATHERING PINE NUTS

Hot summer was almost over. Now the mornings and evenings were getting chilly. Pine nutting time would soon be here. Already mother was beginning to get things prepared for the trip. Great happiness was in the hearts of little Chee-coo-see-gah and Duva-taw-neh. They were going pine nutting. What joy, just to think about. Soon they would be on top of the world; up among the pine nut trees; those dear, good friends of the Indian people.

Duva-taw-neh was helping Big Sister mend the burlap bags that mother had gathered together. Mother was putting some willow into the places in the big burden basket where some of the old ones had been broken and worn loose. The new burden basket was already finished and by mending the old one, they would have two large ones. This would help them when they gathered the pine nuts.

Chee-coo-see-gah played near, watching everything. Grandfather was busy making some new moccasins. He seemed lost in his own thoughts. Chee-coo-see-gah wisely kept from talking to him just then.

The girls and their mother were talking, planning. Big sister and Grandfather were to stay and take care of everything while the others were away. Mother explaining how the chickens must be fed, the eggs gathered, the milk things were to be cared for and all that.

Chee-coo-see-gah sat down, stretched out full length, and rolled over on to his stomach. Then he stuck his little heels up and began kicking back and forth, singing his thoughts. "Tomorrow we will pack. The next day we will go. I am glad. I am glad. I am glad."

The shadows of the mountain were creeping down into the valley. Work was put away. The evening meal was prepared and eaten. Now Chee-coo-see-gah and Duva-taw-neh ran out to where E-taw-gah was sitting in the gathering dusk. The evening wind was sharp and grandfather had his rabbit blanket around his shoulders. The children cuddled close, one on each side of grandfather, pulling the rabbit blanket about them.

"Now, E-taw-gah, you will tell us how our people used to go pine nutting, long ago." they coaxed.

"Long ago, we had no cars. We had no horses and wagons. When we went pine nutting all of us went together in a big band. Before we would start we had our big pine nut dance which is a prayer and

thanksgiving for the pine nut crop. The way was long and many times steep. But we were all happy and it did not seem so.

"There was always a leader. He knew when the time was right for us to go. He led the way for all to follow. He chose the places where we would camp each night.

"Sometimes, we would stop early because the water was near and this was the best place. We would stay all winter up in our pine nut forest. We built homes there from pine nut boughs. Everybody worked gathering as many pine nuts as possible. In those days, we had no wheat, nor flour, nor bread. We lived on pine nuts. The pine nut was our most important food. We must always have plenty of them.

"When we wanted to keep the pine nuts a long time we piled them up, still in the cone, and put a thick covering of pine needles and branches over them. This was weighted down with rocks. This was good. The nuts would not rot or spoil.

"Each morning we gathered around our leader to be blessed and have red paint put on our faces. This was to keep us safe. That is one of our good ways long ago that people have forgotten now. But God still is good, giving us so many pine nuts and taking care of us. It is sad when we forget that."

Grandfather paused.

"Now you, Chee-coo-see-gah and Duva-taw-neh, must run in and go right to bed. The soft dark is hiding everything. The bright stars will keep watch. Tomorrow, you will pack those things you will need while you are away. Now you must go to sleep."

Obediently, the children arose and started towards the house. It was their bed time and they were ready for rest. Yet E-taw-gah was so good to tell them about how the Indian people worked and lived long ago. They would have been glad to listen to more, it was so interesting.

The day they packed was a very busy one. Almost everything they were to take was gathered together before the actual packing began so that nothing would be forgotten. There were so many things that no one but mother could have got them tucked in. The tent, the big milk can with water in it, blankets, the frying pan and coffee pot, the necessary food supply, the willow burden baskets, and the parching tray were all finally well packed within the car or tied to the outside. Everybody gladly helped mother, of course. And when at last all the packing was done and evening came, the tired but happy family went to rest early. The next day, they were to go and wished to start while it was still cool.

Chee-coo-see-gah and Duva-taw-neh were so excited they thought they could hardly go to sleep. The next morning, they were up and dressed before mother had breakfast ready and called them.

At last, all were in the car and the long journey began. The road leading to the highway was crooked and rough. But presently they reached the smooth highway and began rushing along. The cold wind whipped at their faces, making them squint their eyes. But that did not keep them from seeing everything. They watched with interest the new mountains they could see. They could see pretty colors in these mountains; red, purple, white, and green. Coming over a divide, they saw a string of yellowing cottonwoods which marked the path of the river in the valley below. It was getting very warm by the time they came to the little settlement. Here, father stopped for gas in front of the store. Chee-coo-see-gah and Duva-taw-neh looked shyly at three Indian men they saw stitting on the store porch. They were glad when they started once more. Many fluffy, white clouds were all over the sky. Chee-coo-see-gah and Duva-taw-neh were trying to see who could find the most cloud pictures. They enjoyed the purple shadows that lay far and near in spots upon the mountains and desert between.

By and by, father slowed up and turned off from the highway onto a sandy, rough trail that went toward the high pine nut covered mountain range which they had been able to see for quite some time. Almost at once the car began climbing. The grade became steeper and the road was narrow and full of sharp turns. Time and again, they stopped because the car boiled and must be allowed to cool. Once, they halted and father got out to roll a big rock off the road. People always were careful on mountain roads because rocks might roll down from the mountain side on to the road. If you did not stop before you hit these rocks, they might damage or wreck your car. Father knew and drove carefully.

Chee-coo-see-gah and Duva-taw-neh enjoyed this climbing very much. They could see so far into the valley below and across to many other mountains beyond. They breathed in deeply of the good air that smelled so wonderfully of sage and pine nut pitch. Oh! how good it was to be up here.

When father stopped the car at the place he considered best for their camp, both children ran and began gathering pine nuts, first thing. There were big pine trees all about. But father had selected this camping place because here was good water. He knew a spring supplied the water hole in this place where the mustang comes to drink.

Mother and father put up the tent, and then they unloaded the car. When they finished this, father helped mother gather firewood and she began to prepare supper. Chee-coo-see-gah and Duva-taw-neh returned in high spirits with more than enough pine nuts for their next few meals.

Food tasted so good and everyone was so hungry that the supper was eaten quickly. After supper when things were cleaned and put away they all went to bed. It was clear and dry so they could sleep out doors under the stars. They would sleep in the tent only when it was rainy or stormy.

Those were busy, happy days, working and living in the pine nut forest. Mother took Baby out with her, and worked gathering pine nuts, too. Most of the time the baby was in the baby basket, hanging on mother's back. But when baby would go to sleep, mother would lift the basket from her back, and stand it up against a tree where she was working and could watch.

Father had brought a long pole with a hook on the end with which he could reach the higher branches and pull off the pine cones. He was always careful not to break these branches. That would hurt the tree. Mother and the two children would gather the cones into the burden baskets and then empty them in piles near where they were working. Mother worked very quickly, picking up cones with both hands and throwing them into the burden basket that she had left on the ground close by. She hardly needed to look, her aim was so good and so true.

The first cones gathered were rather green and the nuts would not come out. They piled these cones up in the shade of a tree and left them to dry for a couple of weeks. As they came back this way they would stop and take these nuts out of the cones by beating them with a short stick.

To get the nuts they wished to use while they were here, they would find a nice, clean, sandy place and bury a lot of cones under the sand. They would build a fire on top of the sand-covered cones. This fire would be kept burning until they thought the nuts had been heated or roasted long enough. Mother would dig in and take out a cone and try. If the nuts did not come out of the cone when it was beaten, she would take the hot cone in her hands and twist it, to loosen the nuts. If this did not work, more fire would be built and the nuts roasted longer.

When most of the pine nuts on the neighboring trees had been gathered, father walked in a great circle higher on the mountain and found a new place for camping. It was a little green canyon, higher up. By digging down in the sand a little way, he found good water. And the next day they moved their camp.

No one else had been here and the pine nuts were plentiful. They were riper, too, and could be knocked from the branches. The nuts shattered out of the cones as they fell. None of the nuts was lost. They were caught by the sacks and pieces of canvas that had been spread upon the ground under the tree. Now that the nuts were ripe, each day's

gathering could be beaten out of the cones. The nuts were put into the goods sacks to take home. There was going to be more than enough for this winter.

They would have a nice lot to sell at the store in the big town where father sometimes went.

Several times cold rains came and the wind was rough and noisy. It was much colder at night, now. One morning, everything was covered with snow. Father decided that they would go back to the first camp-site and get all the nuts out of the cones they had left piled up back there. From there they could start back home. Chee-coo-see-gah and Duva-taw-neh watched everything on the homeward journey. They remembered many different things they had noticed on the way to the pine nut forest. When at last they recognized the familiar shape of their own mountains on the horizon, they were glad. They would soon be home again. And it was good to be coming home to stay. E-taw-gah and Big Sister would be mighty glad, too.

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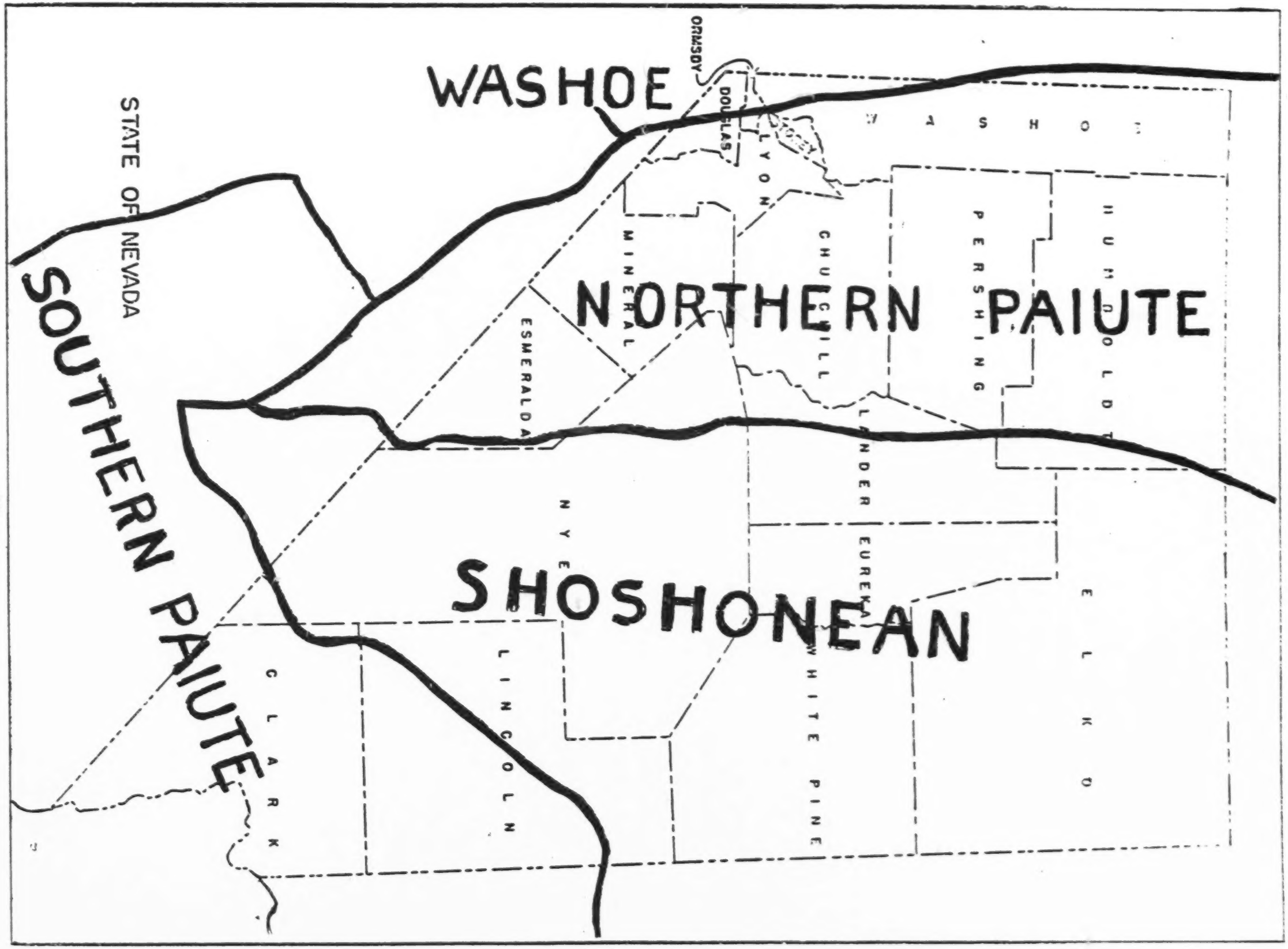
Abbreviations:
P. - Paiute
S. - Shoshone
W. - Washoe
Y.P.- Yerington Paiute
M.P.- Moapa Paiute


WASHOE
NORTHERN PAIUTE
SHOSHONEAN
SOUTHERN PAIUTE
STATE OF NEVADA
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DOUGLAS
LYON
MINERAL
ESMERALDA
NYE
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PERSHING
HUMBOLDT
LANDER
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WHITE PINE
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LINCOLN
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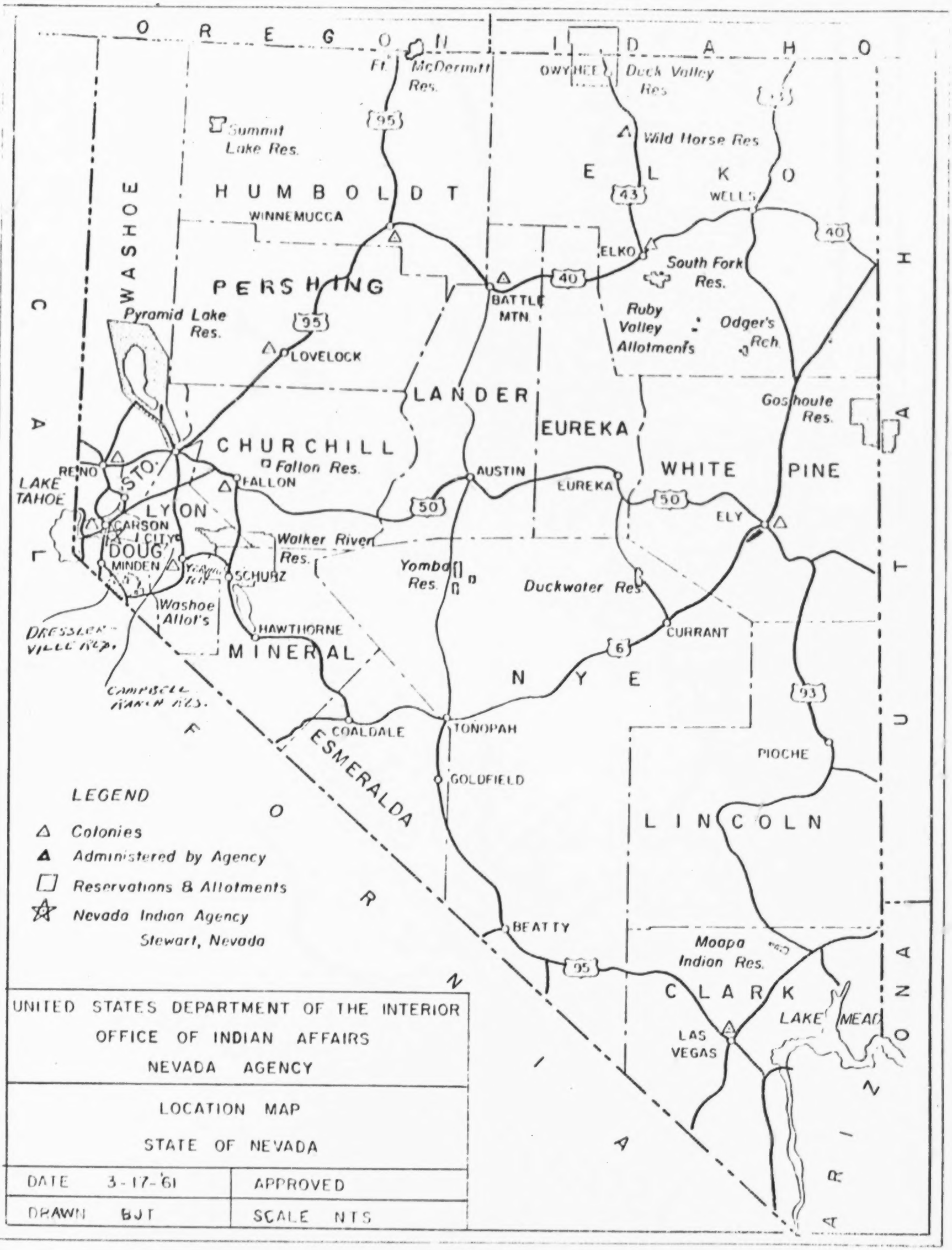

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UNITED STATES DEPARTMENT OF THE INTERIOR OFFICE OF INDIAN AFFAIRS NEVADA AGENCY	
LOCATION MAP STATE OF NEVADA	
DATE 3-17-61	APPROVED
DRAWN BJT	SCALE NTS

ALL FOR OUR COUNTRY
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100 YEARS
CENTENNIAL
OF THE STATE OF
NEVADA
1864-1964
THE GREAT SEAL OF THE STATE OF NEVADA